

THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XIV.

CHICAGO, ILLINOIS, AUGUST, 1878.

No. 8.

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Editor's Table.

☞ A gallon of honey weighs about 12 lbs.

☞ In one county in California, a hunter is said to have found or located 30 bee trees in a short space of time.

☞ With all its facilities, the bee never takes a honeymoon. The Queen's "bridal tour" lasts but a few minutes. Her spouse is made happy for the instant—but the extatic joy is too much for him, for he instantly expires!

☞ No disease is more fatal to bee-keeping interests than that most dreaded of all diseases, foul brood. It does not seem to be confined to any particular locality, but shows its destructive form wherever bees exist, to a greater or less extent, both in Europe and America. Science has failed, as yet, to discover its origin, or a certain and positive remedy. Some experiments are now being made that we hope will throw some light upon it in a scientific way.



MELIPONES.—Few of our readers probably ever heard of an insect by the above name, but the *London Gardener's Chronicle* tells us that the hymenopterous insects known as Melipones, and found in various parts of the world, resemble bees very closely, but are without any sting. Their honey-producing qualities are very decided. Resembling bees in their general character, they are smaller, with a more densely clothed body and the hind feet proportionally longer. As in the honey bees, there are three varieties of individuals—the males, females, and neuters. Some of them make their nests in hollow trees, while others suspend them from the branches. The honey of these insects is said to be of superior quality.

♦ ♦ ♦ ♦ ♦
The National Convention of Bee-Keepers will be held in New York City on the 2d Tuesday in October. Let all who can make their arrangements to be present. The editor of the *BEE JOURNAL* intends to be present. Full arrangements will be published in next *JOURNAL*.

♦ ♦ ♦ ♦ ♦
HONEY KNIVES.—A little more than a year ago Bingham offered to bee-keepers the first [and original direct-draft smoker. That has revolutionized smokers; and, strange to say, no one has been able to improve upon it. He now comes to the front brandishing a new and original honey knife, bearing this inscription: "Cast steel, Bingham & Hetherington. Patent applied for." Should these knives prove as original and valuable as the smoker, bee-keepers will recognize their benefactors. These knives come to us under very propitious circumstances. The fact that they are made by two of the most ingenious bee-keepers of Michigan is of itself a guarantee.

Mr. O. J. Hetherington is an extensive bee-keeper, perhaps the largest in the State, and a brother of Capt. E. J. Hetherington, of Cherry Valley, N. Y. Mr. Bingham you all know as the smoker inventor. See advertisement in another column.

♦ ♦ ♦ ♦ ♦
In many places basswood is a failure this year, we learn as we go to press. In such places the season cannot be first-class. We hope it has not been general.

♦ ♦ ♦ ♦ ♦
The extreme hot weather during last month killed about 200 queens in the cells, just before they were ready to hatch, for friend H. Alley. Others, no doubt, suffered like losses all over the country.

♦ ♦ ♦ ♦ ♦
There will be a meeting of the Kansas State Bee-Keepers' Association in Lawrence, Sept. 4th, at 1 o'clock p. m. All bee-keepers are invited, and the editor of the *JOURNAL* especially. Advantages of reduced fare on railroads to the National Temperance Convention that will be held here at that time, will enable Kansas bee-keepers to attend for one cent per mile.

O. BADDERS, Sec. N. CAMERON, Pres.

[Thanks for kind invitation. A previous engagement will prevent our attendance at that time.—Ed.]

♦ ♦ ♦ ♦ ♦
D. D. Palmer advertises glass for honey boxes in this issue. Those wanting such will do well to correspond with him.

♦ ♦ ♦ ♦ ♦
Any one desiring to purchase a good apiary, with all its appurtenances, in a first-class location, can obtain valuable information concerning it at this office. The owner desires to retire from the business for the present.

♦ ♦ ♦ ♦ ♦
PURITY OF QUEENS.—In demanding that we now settle upon a "standard of purity" for Italian Queens, we inadvertently stirred up a hornet's nest. In a private letter, a correspondent remarks as follows:

"The queens that are now imported are hybrids. A pure queen has a mark that establishes her purity beyond a doubt. She has three plain and distinct crowns stamped upon her abdomen. That was the kind that Mr. Parsons and others imported in the early day, but they now arrive without crowns and are called by the knowing ones, *pure!*"

There is, then, all the more reason in now deciding upon a standard of purity, "crowning" her Italian Majesty with the *true* emblems of her royal purity!! Let the discussion be exhaustive!

♦ ♦ ♦ ♦ ♦
The Western Agriculturist, Quincy, Ill., comes to us this month with a handsomely engraved new title page, which, with the other improvements added this year, makes it the Champion Journal for improvements and progress, being the Oldest and Best Established Monthly in the West, well edited and handsomely illustrated. It is a desirable Journal for every Western Farmer. The price is still \$1.10.

♦ ♦ ♦ ♦ ♦
The Eggleston Truss, which will be found advertised in our columns, presents some features which is well worth the attention of all afflicted with Hernia. This truss is meeting with great success and its manufacturer reports large sales.

The Sour-wood Tree.

DEAR EDITOR: Being acquainted with "sour-wood" honey, and, after extensive observation, believing it to be the finest honey plant in my knowledge both as to the *quantity of yield*, the *flavor*, and also as to *beauty of appearance*, I would ask if you cannot furnish a cut of the blossom in your JOURNAL?

JAMES W. SHEARER.

Liberty Corner, N. J.

The sorrel tree (*Oxydendrum arboreum*), so called because of the acidity of the leaves, is a native of the South, but has

use in the arts. As a honey tree, it is very highly esteemed; in fact, it is the linden of the South. A. J. Cook.

A HORSE STUNG BY BEES.—We saw, a few days since, a horse that had been most fearfully stung by bees. His head was swollen to an enormous size, large enough for 2 or 3 heads. It was caused by bringing the animal in contact with the current of bees that were passing to and from their work. The animal obstructed their passage, which



LEAF AND BLOOM OF THE SOUR-WOOD TREE.

been grown even as far north as New York. It often attains no mean dimensions in its native home along the Alleghanies, often reaching upward more than 50 feet, and acquiring a diameter of 12 or 15 inches.

The flowers are arranged in racemes, are white, and with the beautiful foliage make an ornamental tree of high rank. The bark is rough, and the wood so soft as to be worthless, either as fuel or for

so enraged the little creatures that they attacked him, and when one stung, others smelt the virus and immediately a light-brigade-charge was made. Too much care cannot be exercised in keeping stock out of the current of workers; otherwise bees seldom attack stock, unless in some way disturbed or angered. Turpentine is a good remedy for the sting.—*Los Angeles Star*.



Ceresin Wax.

EDITOR JOURNAL:—Will you please inform us through the JOURNAL what Ceresin wax is, and its uses? Should it be used in making comb foundation?
J. L. JONES.

Ceresin wax is the name of the purified product obtained from ozocerite, an impure fossil wax, found chiefly near the large coal beds of Dwhobriz and Boryslow, in Galicia, and Gresten, in Austria. The crude substance, freed from the sand, clay and other earthly impurities, is of a deep brown color with greenish tint, and has a spec. gr. of 0.940—0.970, exhales a benzine-like odor, and in hardness, fracture and pliability entirely resembles beeswax. It is very combustible, with difficulty solvable in oil of turpentine. It is purified and bleached by means of Nordhausen's sulphuric acid, and in its purest form is used principally as a substitute for beeswax by manufacturers of candles, wax flowers, polishing pomades, cloth finishers, laundrymen, etc.

Considerable quantities have already been imported to this country, and some of our friends have, no doubt, made its acquaintance unknowingly, for it has such a surprising resemblance to beeswax that it is used even for pharmaceutical purposes. We are told that it not only retards, but entirely prevents rancidity in ointments.—The melting proof is higher than the beeswax.

As to its use in the manufacture of comb foundation, there can be no toleration even for the thought. The one who first used it soon abandoned it in disgust, having paid dearly for his folly. Comb foundation should be made of pure beeswax, and that only. Bees usually refuse to accept of ceresin wax, and only when *compelled*, for want of room, will they use it in any case.

We do not believe now that there is any one of our heavy manufacturers of comb foundation that uses anything but the pure wax.

We had an amusing incident a little while ago, on this wise:

A man, living about 500 miles from Chicago, ordered 20 lbs. of comb foundation of us, which we sent in due time. In about 2 weeks, he wrote to us that it was impure—that his bees would not accept it—that they had torn it down and were gnawing it up, &c., &c., and wanted us to send more, of another make, at once. We replied that it was not impure; but, to satisfy him, we sent 20 lbs. more, of another make, and had him return the first lot. When it came back, we immediately put it into our own hives, to see what our bees would do with it. To subject it to the best test, we gave it to queenless colonies, and in 24 hours they had it built out to half-length cells; inside of a week it was completely built out and filled with nice, white clover honey.

One piece of that returned, which was doubled up, and out of shape, generally, we partially straightened out, and placed into one of our hives, in the presence of 4 or 5 persons to whom we explained the reason for so doing.—This was, like the rest, accepted *at once*, and is now full of honey! Several other pieces is now on our desk as it came back from the purchaser, with the cells partly built out—proving conclusively that his bees also accepted it, and had commenced work on it. Evidently they were well pleased with it, and gathering so multitudinously upon it, that being fastened insecurely, it gave way, dropping down to the bottom of the hives. Then in order to get rid of it, he found the bees busy gnawing it to pieces, and carrying it out of their hives. This, we think, is the whole explanation—and though it cost us several dollars to verify our suspicions of the cause, still, we think it money well spent. The one who purchased it blamed both us and the bees wrongfully, but fortunately we are able to vindicate both.

It will not always do to conclude too hastily that foundation is made of impure wax—the trouble is sometimes

caused by poor workmanship on the part of the bee-keeper. As before stated, we do not believe any manufacturer of comb foundation is now using anything in it but pure wax.

A correspondent says he has sent money to Tremontani, in Italy, last April, for queens, and gets no answer, and wants to know if that is his way of doing business. So far as our experience goes, *it is*. We sent him money by draft on Paris, in March, and still get no queens from him. We have had to procure them elsewhere, after having paid him for them. We learn from several dealers in imported queens that he has served them in a similar manner this season. He seems to have no conception of how business should be transacted. He will *probably* send the queens when he gets nothing else to think about. We intend to have nothing more to do with him. We learn that A. J. King, P. L. Viallon, and others, have come to the same conclusion. We would not have had the trouble he has caused us this season, for all the queens he could send us in a year. All should be cautious about dealing with him.

A MODEL BEE-KEEPER.—The editor of the Des Arc (Arkansas) *Citizen*, has given us his views of apiculture in that State in the following language, which appeared in his paper on the 9th ult :

"We had the pleasure of looking through Dr. Hipolite's apiary last week, at DeVall's Bluff, and was forced to come to the conclusion that he was the model bee-keeper of Arkansas. Everything connected with his apiary is kept in the neatest order possible, and no man can be more perfectly at home with his bees. We would like to see bee-culture more general in Prairie county, and to that end we suggest that a bee-keepers' association be formed in this county. Prairie is far ahead of the rest of the State in bee-keeping, and should be the first to organize such an association. Let us hear from the bee-keepers of Prairie on this subject."

In 1875 we took a trip down through that State, and noticing the many advantages it presents for the successful

management of bees, we wondered why it was so far behind in modern appliances and apicultural progress. By all means let there be an association formed—and let Dr. H. be the *light* thereof.

Friend E. C. Jordan, of Jordan's Springs, Va., is a famous cultivator of vegetables as well as a passionate lover of the bee. He also keeps an excellent hotel at the celebrated White Sulphur Springs, as we notice by the papers in that locality. The "heated season" of the past month makes us wish we *could* accept friend Jordan's generous invitation to us to go and stay awhile at his "cool retreat;" but alas a rush of business that keeps us "red hot" all the time, forbids us from even *thinking* of such "a heavenly rest." Thanks, friend J., for the "cool intent." We must be contented with being "present in spirit" with you, while being "absent in body." Selah.

Dead Letter Office Facts.

We have often referred to the necessity for more care being exercised in addressing letters to this office—particularly in the matter of addressing the letter, stamping it, and in giving very plainly the name of the writer, and the post office address in full. That there is a necessity for this let the following facts demonstrate :

There are 4,000,000 dead letters received yearly at the dead letter office.
 Three hundred thousand without stamps.
 Fifty thousand, partially addressed.
 Six thousand, no address.
 Forty thousand dollars in money, nine-tenths of which is returned, the balance remaining in the treasury, subject to application, for four years.
 One and a half million of money orders and drafts of money value.
 Forty-five thousand packages containing property.
 Fifteen thousand photographs.
 Quarter of a million of European letters are returned unopened.
 One-tenth of all the letters received contain property.

An Iowa exchange says that a farm hand in that State, actuated by curiosity, tipped up a bee hive in order to find out what the bees were doing. He knows now. They were making chain-lightning, and lots of it.



The Bee and the Grasshopper.

A honey-bee, yellow as gold,
Sat perched on a white clover top,
When a grasshopper, wiry and old,
Came along with a skip and a hop.
"Good-morrow!" cried he, "Mrs. Honey-Bee,
You seem to have come to a stop."

"We people that work,"
Said the bee, with a jerk,
"Find a benefit sometimes in stopping;
Only insects like you,
Who have nothing to do,
Can keep up a perpetual hopping."

The grasshopper paused on his way,
And thoughtfully hunched up his knees;
"Why trouble, this sunshiny day?"
Quoth he, "with reflections like these?
I follow the trade for which I was made;
We can't all be wise honey-bees."

"There's a time to be sad,
And a time to be glad;
A time both for working and stopping;
For men to make money,
For you to store honey,
And for me to do nothing but hopping."

Smokers—How to Operate Them.

Please give directions for operating Bee Smokers successfully? Materials to be used and how best to ignite them?

X. Y. Z.

In order to do this, we must give directions for operating each kind of smokers, viz:

FOR BINGHAM SMOKER.—Select maple, or hickory which is sound and dry, and saw it into blocks 4 inches long; split these blocks into pieces $\frac{1}{4}$ inch square, and keep them in a dry place for use. If it burns too fast, mix some coarser with it. To start a fire with such wood, a few good coals dropped into the bottom before filling with wood will answer; but, as a rule, a few shavings and chips of punk, or rotten wood, started with a match and dropped into the bottom before filling with wood will be found best. Once started with such wood, and refilled occasionally, a fire may be kept continually burning and ready for use. If smoke is wanted only for a few moments, any dry rotten wood will answer, but such as is found in the heart of an old *hard wood* tree will be found best.

TO BURN TOBACCO.—Start the fire as above, and put in a layer of small, square, or broken pieces of rotten wood, then a layer of tobacco, then rotten wood, &c.

FOR NEW QUINBY SMOKER.—Make the smoke of any kind of wood that is sufficiently decayed to burn readily, or if perfectly dry, solid hard wood may be used, split in pieces $\frac{1}{4}$ inch square, and 5 inches long. To start the smoke, take off the

tapering nozzle, light a piece of decayed wood, and put the burning end into the tube first, or drop in a coal of fire, and place the wood upon it. Replace the nozzle; work the bellows with one hand, directing the smoke to the point desired.

FOR EXCELSIOR BEE SMOKER.—Light the smallest end of the cartridge with a match, a cigar, or at the stove, and put the fire end in first; blow a little to get the fire started before you put on the nozzle. Then take it in the left hand, in the middle where it will balance; place the ball of the left thumb in the thumb hole, and hold it down a little sidewise. You can now use your right hand for anything else. When you open a hive, first pry up the board with your knife and give them a little smoke before you let the bees out; this keeps them from taking wing when you open it.

Cotton rags, or cotton filling out of an old, worn out comforter, is the best, cheapest and handiest fuel, as it burns so slow.—Tear or cut the rags up before using.

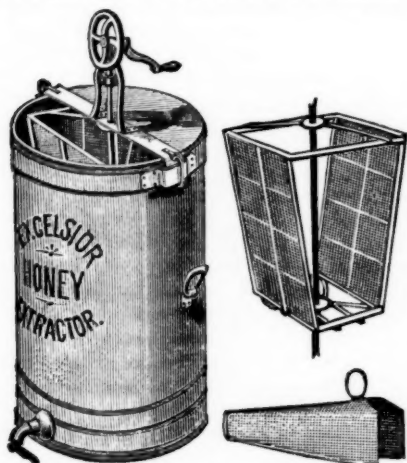
The Season in California.

The San Diego *News*, in speaking of the honey season, says: "Along the coast the season for honey-making is pretty much over, the flowers being nearly closed out. Higher up in the country it is a little different, and in the mountains in some places the season but now fairly opens. In the towns the bees are hard at work on the trees that yield flowers, and on a small yellow shrub that can be found almost anywhere. The honey is very fine, white and pure, and ought to sell for a fine price."

The Los Angeles *Star* remarks:—"We saw in front of Bassett & Co's. a large number of cans filled with honey, ready for shipment. They belonged to E. E. Shattuck, who has 2 bee ranches in this vicinity. We understand that Mr. Shattuck has 20,000 lbs. of honey now ready for shipment. He expects to be able to ship 40,000 lbs. during the season. There are quite a number of apiaries which will yield handsomely. The honey is excellent, but the quantity will be much below the yield of two years ago. This is because many of the bees died during the drouth of last year, and those that are left have not had a good working season. The damp, foggy spring has been a considerable drawback to the bees. But this disadvantage will be partially counteracted by a prolonged season."

The "Excelsior" Honey Extractor.

Here is another candidate for public favor, and one that has many things to commend it. It possesses all the advantages of neatness, durability, and ease of operation, as well as that of thoroughly and quickly emptying the combs of honey! It takes any size frame smaller than 12x20.—It is made entirely of metal, and we think it has advantages that make it the best Honey Extracting Machine in the market. It is light, but has attachments for fastening down to a box or platform, rendering it steady and permanent in position, and is exceedingly easy of operation. It can be instantly taken to pieces for cleaning,



having no screws to take out, nor cumbersome and heavy pieces to lift.

Some of its advantages are as follows:

The lower end of the comb basket shaft does *not* revolve in the honey below, even when 60 or 70 lbs. may be there! It has a "strainer," elevated some 3 inches above the bottom of the Extractor, and entirely covering the canal leading to the faucet or honey gate; therefore, when drawn off, the honey is clear and free from bits of comb or other undesirable particles. This "strainer" can be instantly removed, cleaned and replaced.

A strong gearing, with an over-motion, is essential to both *ease* of operation and effective work. By it, the motion can be controlled, so as not to throw out the brood, when extracting. The two covers close the machine up tightly, and thus prevent the bees from annoying the operator, as well as

to keep it free from dust, when not in use. The handles are strong, and attached near the centre, for ease of carrying. It is provided with a small comb holder for extracting pieces of comb or partly-filled boxes or sections. The honey receptacle has capacity for 60 or 70 lbs. of honey, where it may be allowed to ripen before drawing off, if desired.

Some of these advantages may be found in other extractors; but none, we think, will put in a claim to them all. The one providing for the revolving of the comb without lubricating in the honey is quite important. For the advantages presented it is exceedingly *cheap*, and it is thoroughly practical. It may be obtained at this office.

Bees in Colorado.

In an exchange, J. S. Flory says: "For years before we came to Colorado we were more or less engaged in the business of keeping bees, both for pleasure and profit. On our arrival here, owing to the long seasons of dry weather to which Colorado is subject, and the absence of honey producing forests, we made up our minds this one pursuit, in which we found so much to admire, would have to be given up. But of late our views upon the subject have become much more modified. We have seen very nice honey in our market for sale, which was gathered by the busy bees here in our midst, and learn from some of your correspondents that others are making the keeping of bees a success. I now look forward with interest and a longing desire to the time when I hope to hear the pleasant hum of swarming bees around my home. As a business of healthful, out-door exercise, and, we may say, recreation from study, we know of no other pursuit so well adapted to both men and women as the keeping of bees. Apiarian science is by no means a dry study. It opens up a field broad and pleasant, and, when mingled in practically, is a thing to be loved and enjoyed. If Colorado 'hath sweets that perish in the desert air,' for the want of willing bees to gather them, let us import and raise an army (that will not be consumers of government rations) that will add more wealth to our resources; workers that will produce for our tables one of the most healthy luxuries known in the world. We have the milk; now if we can have the honey, let us have it that indeed we may have a land like unto ancient Canaan—'flowing with milk and honey.'"



Seasonable Hints—August.

White clover having yielded abundantly in nearly every locality, and basswood being now past its prime, the summer season for storing surplus honey will soon be over, till buckwheat comes in. Between the yield of basswood and buckwheat, if the surplus has been taken largely, it may be necessary to feed some; all should know how their bees are doing, keeping a close watch. All impotent queens should be superseded, so that the colonies may be kept strong to gather the fall crop of honey. Queenless colonies should be given queens or frames of brood, if they have none, in order to raise a queen. If the brood chamber is full of honey, it should be removed from a few of the central frames with the extractor, in order to give the queen room for brood. The opening of hives and the removal of surplus honey should be done at night, in the early morn, or on a cool day.

Surplus honey should be kept in a cool dry place. Examine the boxes and sections occasionally; and if any moth worms are found, remove and destroy them. Extracted honey may be kept in barrels, wooden vats or tins; the barrels or vats should be coated with wax to prevent leakage.

Care should be taken not to expose the honey, to start robbing. The entrance to weak colonies should be contracted, to enable them to defend themselves from robbers.

By the last of August buckwheat will have come in; boxes partly filled should be removed and extracted before that, so as not to have the honey mixed.

During August and September the bees will be more irritable than usual, and all who are nervous or timid should provide themselves with a good smoker and veil, if they find such necessary. These will steady the nerves and enable even the most timid to control their bees at all times, and make the necessary examinations with confidence.

In handling them let the novice be

careful to avoid jars, working quietly and steadily, always keeping perfectly cool. Should a sting be given, remove it, squeeze out the poison, and apply honey, soap, hartshorn, essence of peppermint or even a little mud.

♦♦♦♦♦
BEE STINGS, A CURE FOR RHEUMATISM.
 —Our friend Chandler, to whose skill and good taste so many fine engravings have been produced in the *BEE JOURNAL* and in Cook's New Manual, had been for weeks laid up with rheumatism. Last year we had sold him a colony of Italian bees, and he now has six colonies from that one. A few days ago we saw him get off the street car, opposite our office, and we expressed our surprise at seeing him out, as we knew he had not been able to be at his office for weeks. He informed us that, as the bees were swarming, he managed to hobble out of doors and tried to live them. Rheumatism preventing any scientific work, he received several stings in his disabled rheumatic arm. It then swelled up; and after caring for the bees he went again to his bed and slept. On awaking, he was surprised to find that the rheumatism had disappeared, and he has not had it since!—He is now a firm believer in bee stings!!

♦♦♦♦♦
 [E] The increase of the products of the apiary, of late, have caused some to fear a glutted market. Instead of this, the demand is still in advance of the supply. The export of honey to Europe has made the article scarcer at home than it has been for years. It can now be shipped to any part of the world as easily as any other article of commerce. The Shipment of comb honey sent to Bordeaux last season has been satisfactorily disposed of. Thus, at least, we bid fair to turn the tide of gold which flows to Bordeaux from this country in return for the shipments of wine and raisins which they make to us.

♦♦♦♦♦
 [E] A new kind of feed for bees in transit cages has been brought to notice by friend Alley. It works well, the bees living for some two weeks on it while encaged. He is testing it further, and when it has stood the utmost test it will be brought before bee-keepers in a public way. We had a sample cage on our desk, with the bees as lively as one could wish, after being therein 14 days.

SCOVELL'S QUEEN CAGES.—Friend Scovell writes that his cages are just the thing for introducing Queen Cells as well as Shipping Queens. He gives the following as the *modus operandi*:

"Trim the cell pretty close, take it by the small end and dip it into melted wax, and put into the bottom of the cage; put the cage, without its lid, bottom up, over an opening between the frames; cover with cloth and the cell is introduced. It can be examined at any time by raising the cloth and picking up the cage."

Friend Scovell says he introduced 25 Queen Cells in that way in one week, without the loss of a single Cell.

SHUCK'S BEE FEEDER.—We have received one of these Feeders for our Museum. It is designed to be used at the entrance of the hive; the entrance can be contracted or wholly closed with it, unless the entrance is too large for it. When the Feeder is in place at the hive entrance, the food, prepared from coffee A or C sugar, by dissolving it in boiling water, may be poured in as often as necessary. As the Feeder fits close to the hive, no bees can reach it from the outside. It is an ingenious contrivance and withal very cheap.

As we must report on the Cyprian queen which was to be sent us from H. Haines, we will say that he has sent us four queens—three came dead, and the one that came alive was an Italian. Mr. H. explained that his hired man sent it by mistake. One of those received dead was sent by mail, and two by express. *Experimentum crucis. Je vous remercie.*

THE EVERETT EXTRACTOR.—Friend Everett has sent one of his Extractors for 4 frames to our Museum. It is nicely painted and looks really beautiful. The only criticism we should offer is that the gearing hardly gives power enough for a 4-frame extractor. Friend Everett was the first to get up the small comb holder for extracting honey from small pieces and partly filled sections, and well deserves the credit, for it is a very convenient arrangement.

HONEY AND WAX.—We will take Honey and Wax in exchange for Implements for the Apiary, to any amount, at the usual market prices of both.

A Substantial Basis.

The San Francisco *Bulletin* remarks as follows concerning the cause of last year's failure of the honey crop in California:

"In several of the past years the yield of honey was so great that the production was far in excess of the requirements of the local markets, which were consequently overstocked. The quantity shipped from the State was wholly inadequate to prevent extremely low prices prevailing at home. This was notably the case at the close of the season before last, when the yield was not short of 3,000,000 pounds. Many apiarists, with a short-sighted eagerness for profit, then drew so largely on the honey in their hives as to leave an inadequate amount remaining for the support of their colonies during the next season, which unfortunately proved a dry one. The loss of bees in consequence during the last season was immense; over 18,000 colonies being destroyed, it is estimated, in Los Angeles county alone."

The *Bulletin* adds: "The business has now passed that experimental stage in which our industries are too often followed merely for temporary gains and quick profits, and the present efforts to place it upon a substantial basis bid fair to be attended with that permanent success which always inures to perseverance and systematic management."

These "thoughts," first "breathed" by the *Bulletin*, become to every scientific apiarist really "words that burn!" A "substantial basis"—"permanent success!" These are the watchwords—the things to be earnestly sought after, and as the *Bulletin* sagely remarks, "always inures to perseverance and systematic management!"

ENTRANCE REGULATOR.—Friend Albert D. Rust, of Fort Worth, Texas, has sent us one of his Entrance Regulators. It is intended to place it at the entrance of the hive, making it instantly any size desired. It is to be hung just far enough above the entrance to let it swing up, and when turned down just to fit, and must always be adjusted when up. It consists of 2 pieces of zinc with square holes cut in the lower side of each; when by pushing in or drawing out one of them, the holes not being opposite each other are closed or opened at pleasure.

Some time since friend Davis, of Wolf Lake, Ind., sent us drawings of his Queen Dial, and other apian appliances used by him in his apiary. He has our thanks. The Dial, particularly, is a useful article.



Marketing Honey.

This department will be devoted to items of interest concerning Packing, Selling and Shipping Honey and Beeswax.

Marketing Honey.

The best method of marketing honey, both comb and extracted, is to sell direct to the consumer or retail dealer, and not to send to honey dealers. One of our correspondents gives his experience in selling honey as follows:

"Last year I put half a barrel of extracted and about 50 pounds of comb honey into my spring wagon, and went among the consumers and sold to them at 12½ to 15 cts. per pound for extracted, and 25 cts. for comb honey; and in a short time I sold all my extracted honey, and could have sold as much more. Those who got but a few pounds of me last season now want more and in larger quantities. I do not think I can half supply the demand I have created in this locality. Last season I sold 4,000 lbs. of honey, but that will not suffice for this season."

If the producer would take a little time and trouble to furnish the consumer with genuine honey at a moderate price, and thus get a market established, he would be surprised at the amount he could sell. Try it. Last season we commenced to sell honey from our office, and now the call for it is vastly increased. So far we have not been able to get it fast enough to supply the call.

✿ England, we learn, has had a very wet season. Many of the crops have been injured thereby, particularly the wheat. The call upon the United States for breadstuffs will be quite large in consequence. The season for bees and honey has also been, thus far rather discouraging. Mr. Hoge, who has been in Europe for several months looking after the money interests, is expected home this month, and then we hope to learn more particulars concerning the honey crop, and the exporting prospects.

TO GET BEES OUT OF HONEY BOXES.

—E. W. Darling inquires how to get the bees out of honey boxes. Place the boxes bottom upwards on the cap of the hive from which the boxes were taken; placing an empty box on the top of each

one. The bees will go up into the empty box and cluster. They may then be shaken down in front of the hives they belong to.

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INCREASING.—The extensive use of beeswax for comb foundation has made that article very scarce. We have purchased some 1,500 pounds during the month of July, and want more. It is said that the annual product of wax in the United States is 20,000,000 of pounds, and it is increasing very fast.

The production of honey, too, has doubled within the past few years. Let us then ask a very serious question of those who delight in looking at the dark side. It is this: As last year's honey has been out of the market for at least 3 months—has not the demand very sensibly increased? True, prices are lower—but think of the "ready sale" and increasing supply and demand. Every article that achieves that much-coveted POPULAR DEMAND reaches lower prices, but with the "ready sale for cash," producers make more than with a slow sale and higher figures. Oh! "Let us have peace!"

◆◆◆
NEW USE FOR HONEY.—The California Honey Balsam, for coughs, colds, sore throats, and lung diseases, is fast rising in popularity among the afflicted; so much so that it has become necessary to extend its manufacture. For this purpose a company has been organized to manufacture it as well as the Honey Lozenge. The Los Angeles Herald remarks that "it will not be long until this new enterprise will contribute to the demand for honey. These new uses of honey must be to the interest of apicultural pursuits."

◆◆◆
✿ To prevent honey from candying after being taken from the comb, put it into a kettle and over the fire; boil it gently, and as the skum rises skim it off until it becomes clear, when it can be turned into the vessel you wish to keep it in, where it will keep clear and fresh without candying.

Chips from Sweet Home.

It is said "variety is the spice of life," also, "change is rest." In 1876, we purchased Zell's Encyclopedia, and among the first things we referred to was the bee. We found in it so many things that were interesting that we concluded to correct and give it to the readers of the AMERICAN BEE JOURNAL. We wrote the editors of Zell's Encyclopedia, and received the following answer:

D. D. PALMER:—Your favor of the 8th inst. is at hand. We will be very thankful to accept your kind offer to correct the article on bees. We cannot say where the editor procured his information, but presume from works that were considered standard on the subject, which, as you know, are to practical bee men very unreliable. We are yours,
Very truly, T. ELWOOD ZELL, DAVIS & CO.

I accordingly give the following article from Zell's Encyclopedia, and follow it with my corrections as foot notes:

BEE, *n.* [A. S. *beo*, probably from *buan*, *buan*, to inhabit, to dwell; Du. *bye*; Lat. *apis*; Fr. *abeille*.] (*Zool.*) The generic name of a family of Hymenopterous insects, for the classification of which, see APIDÆ.

Of all the insect tribe, none have more justly excited the attention and admiration of mankind than the bee; and yet, although it has engaged the study of naturalists for two thousand years, we still occasionally find, in the economy of this social and industrious little animal, some obscurely known or unelucidated fact, which is thought worthy of the labors of those who devote their time and abilities to the pursuit and advancement of this interesting branch of natural science.

The most important species is the honey bee, or hive bee, *Apis mellifica*, so long celebrated for its wonderful polity, the neatness and precision with which it constructs its cells, and the diligence with which it provides during the warmth of summer a supply of food for the support of the hive during the rigors of the succeeding winter. In its natural state, the honey bee generally constructs its nests in hollow trees; but so universally is it now domesticated that we rarely find it otherwise than hived in our country, where they have been probably imported early from Europe.

Honey and wax are the two valuable articles of commerce, for which we are indebted to this useful insect.

Now, if we examine the structure of the common bee, the first remarkable part which presents itself is the proboscis, (*Fig. 331.*) an instrument serving to extract honey from flowers; it is not formed like that of other flies, in the shape of a tube by which the fluid is to be sucked up, but rather like a tongue, to lap it up. When thus lapped out of the nectary, it is conveyed to the crop or honey-bag, where it undergoes but little alteration, and is then transferred or disgorged into cells destined to receive it.

While the bee is busy in extracting the sweets of the flowers, it becomes covered with the *farina* or pollen of the anthers;

this pollen it wipes off with the brushes of its legs, collects every particle together, and kneads it into two little masses, which it lodges on the broad surface of the tibia of each hind leg, where a series of elastic hairs over-arches a concavity, and acts as a sort of lid or covering, (*d, Fig. 331.*) Thus employed, the bee flies from flower to flower, increasing its store of honey, and adding to its stock of kneaded pollen, which is called *bee-bread*.

The abdomen is divided into 6 annulations or rings, which are capable of being contracted or extended at pleasure; and the insect is internally furnished with a honey-bag, a venom-bag, and a sting. The honey-bag, which is as transparent as crystal, contains the honey which the bee has lapped from the flowers, the greatest part of which is carried to the hive, and poured into the cells of the honeycomb, while the remainder serves for the bee's own nourishment.

Wax is a peculiar secretion in little cells beneath the scales of the abdomen. It is from honey that the wax, by some internal process is elaborated. The wax oozes out between the abdominal rings, in the form of little laminae; it is then worked with the mouth, and kneaded with saliva, that it may acquire the requisite degree of ductility for the construction of the comb, which is finished with a substance called *propolis*, a glutinous or gummy resinous matter procured from the buds of certain trees.

The *sting* is composed of 3 parts; namely, the sheath, and two extremely small and penetrating darts, each of which is furnished with several points, or barbs, which, rankling in the wound, render the sting more painful. This instrument, however, would prove but a feeble weapon, if the bee did not poison the wound. The sharp-pointed sheath first enters, and this being followed by the barbed darts, the venomous fluid is speedily injected. Sometimes the sheath sticks fast in the flesh, and is left behind; but the death of the bee invariably follows. (1.)

Having examined the bee singly, we now proceed to an inquiry into its habits as a member of a social community. Viewed in this light, we behold an animal active, vigilant, laborious, and disinterested; subject to regulations, and perfectly submissive. All its provisions are laid up for the community; and all its arts are employed in building a cell, designed for the benefit of posterity.

A beehive contains 3 kinds of individuals, — a queen, drones and workers; the queen is a female, and not only the ruler, but in great part the mother of the community. — (2.) The drones are males, and the workers are abortive females.

The sole office of the queen appears to be the laying of eggs; and this occupies her almost incessantly, as a single one only is deposited in each cell, thus causing her to be in continual motion; she is slow and majestic in her movements, and differs from the workers in being larger, having a longer body, shorter wings, and a curved sting. The queen is accompanied by a guard of 12 workers, an office which is taken



in turn, but never intermitted; in whatever direction she wishes to travel, these guards clear the way before her, always with the utmost courtesy turning their faces towards her; and when she rests from her labors, approaching her with humility, licking her face, mouth, and eyes, and appearing to fondle her with their antennæ. (3.)

The drones are all males; they are smaller than the queen, but larger than the workers; they live on the *honey of flowers*, but bring none home, and are wholly useless, except as being the fathers of the future progeny; when this object is accomplished, they are destroyed by the workers. (4.)

A buzzing commences in the hive, the drones and the workers sally forth together, grapple each other in the air, hug and scuffle for a minute, during which operation the stings of the workers are plunged into the sides of the drones, who, overpowered by the poison, almost instantly die. (5.)

The workers are the smallest bees in the hive, and by far the most numerous; they have a longer lip for sucking honey than either of the others; their thighs are furnished with a brush for the reception of the pollen of flowers, and their sting is straight. The workers do the entire work of the community; they build the cells, guard the hive and the queen, collect and store the honey, elaborate the wax, feed the young, kill the drones, &c. The average number of these 3 kinds of bees in a hive is, 1 queen, 2,000 drones, and 20,000 workers. The eggs are long, slightly curved, and of a bluish color; when laid, they are covered with a glutinous matter, which instantly dries, attaching them to the bottom of the cell.

For 11 months the queen lays only workers' eggs; afterwards, those which produce drones; as soon as this change has taken place, the workers begin to construct royal cells, in which, without discontinuing to lay drones' eggs, the queen deposits here and there, about once in 3 days, an egg which is destined to produce a queen. (6.)

The workers' eggs hatch in a few days, and produce little white maggots, which immediately open their mouths to be fed; these the workers attend to with untiring assiduity; in 6 days each maggot fills up its cell; it is then roofed in by the workers, spins a silken cocoon, and becomes a chrysalis; and on the 21st day it comes forth a perfect bee. The drones emerge on the 25th day, and the queens on the 16th.

When the queen bee has an inclination to deposit her eggs, she goes forth, accompanied by 6 or 8 working bees as a guard, whose stomachs are filled with honey. She is very deliberate in her motions, and seems to proceed with great caution. She first looks into a cell, and if she finds it perfectly empty, she draws up her body, inserts her abdomen into the cell and deposits an egg. In this way she slowly proceeds till she has dropped 10 or 12 eggs, when perhaps feeling exhausted, she is fed by one of the attendant bees, who have surrounded her all the time. This is done by the bee ejecting the honey from its stomach into the mouth of the queen. When this has been done, the

bee goes away and another takes its place. The operation of laying her eggs again goes on, and is succeeded by the same mode of feeding, the attendant bees frequently touching the antennæ of the queen with their own.

When the operation of laying the eggs is completed—and it generally occupies some time—the queen retires to that part of the hive which is most filled with bees.—During her progress, the surface of the comb is very little intruded upon, and the space seems purposely to be left unoccupied. Some few of the cells, however, in a brood-comb, are passed over by the queen, and afterwards filled either with honey or farina. These serve as deposits of food, from which the neighboring brood may be fed more readily, as such cells are never covered with wax.

It has been already stated, that the queen, for nearly a year, lays no eggs that are destined to produce queens. (7.) It therefore follows, that, if any evil befall her, the hive is left without a queen. It sometimes happens that she dies, or is taken away by the owner of the hive, to observe the result. For 12 hours, little notice is taken of the loss; it appears not to be known, and the workers labor as usual. After that period, a hubbub commences; work is abandoned; the whole hive is in an uproar; every bee traverses the hive at random, and with the most evident want of purpose. This state of anarchy sometimes continues for 2 days; then the bees gather in clusters of a dozen or so, as though engaged in consultation, the result of which seems to be a fixed resolution to supply her loss. A few of the workers repair to the cells in which are deposited the eggs of the workers; 3 of these cells are quickly broken into one, the edges polished, and the sides smoothed and rounded, a single egg being allowed to remain at the bottom. When this egg hatches, the maggot is fed with a peculiar nutritive food, called royal bee-bread, which is never given to any maggots but such as are to produce queens. Work is now resumed over the whole hive, and goes on as briskly as before. On the 16th day the egg produces a queen, whose appearance is hailed with every demonstration of delight, and who at once assumes the cares of a mother over the hive. When, under ordinary circumstances, a young queen emerges from the chrysalis, the old one frequently quits the hive, heading the first swarm for the season, and flying to some neighboring resting-place, is observed by the owner, captured, placed in a new hive, and a new colony is immediately commenced. Before a swarm leaves the hive, sure indications are given of the intended movement; the workers leave their various occupations, and collect in groups, especially near the door of the hive, as though in consultation on the important event about to take place.

As the summer advances, many queens are hatched, but the workers do not allow them instant liberty, as severe battles would take place between them and the reigning queen, in which one would be killed; the workers, therefore, make a small hole in the ceiling of the royal cell,

through which the captive queen thrusts her tongue, and receives food from the workers. In this state of confinement the young queen utters a low, querulous note, which has been compared to singing.—When the reigning, or newly created queen, finds one of these captives, she uses every effort to tear open the cell and destroy her rival. To prevent this, the workers often interpose, pulling her away by the legs and wings; to this she submits for a short time, when, uttering a peculiar cry, called her voice of sovereignty, she commands instant attention and obedience, and is at once freed from her assailants.

The cocoons spun by the maggots of the workers and drones completely envelop the chrysalis; but that spun by the maggot of the queen appears imperfect, covering only the upper end of the chrysalis. It has been supposed that they are thus designedly exposed to the attacks of other queens, and their destruction, before emerging, facilitated. When the chrysalis of the queen is about to change to a perfect insect, the bees make the cover of the cell thinner by gnawing away part of the wax; and with so much nicety do they perform this operation, that the cover at last becomes pellucid, owing to its extreme thinness.

The combs of a beehive comprise a series of hexagonal cells, built by the bees as a receptacle for honey, and for the nurseries of their young; each comb in a hive is composed of 2 ranges of cells, backed against each other. The base or partition between this double row of cells is so disposed as to form a pyramidal cavity at the bottom of each. There is a continued series of these double combs in every well-filled hive—the spaces between them being just sufficient to allow two bees, one on the surface of each comb, to pass without touching.

Each cell is hexagonal, the 6 sides being perfectly equal. This figure ensures the greatest possible economy of material and space; the outer edges of the cells are slightly thickened, in order to gain strength; the same part is also covered with a beautiful varnish, which is supposed to give additional strength. The construction of several combs is generally going on at the same time; no sooner is the foundation of one laid, with a few rows of cells attached to it, than a second and a third are founded on each side, parallel to the first, and so on till the hive is filled—the combs which were commenced first being always in the most advanced state, and therefore the first completed.

The design of every comb is sketched out, and the first rudiments laid by a single bee. The foundress-bee forms a block out of a rough mass of wax, drawn partly from its own resources, but principally from those of other bees, which furnish wax from sacs, in which it has been secreted, that are situated between the segments of the body of the bee; taking out the plates of wax with their hind feet, and carrying it with their fore feet to their mouths, where it is moistened, masticated, and rendered soft and ductile. The foundress-bee determines the relative position of the combs, and their distance from each other, the foundations

which she marks serving as guides to the ulterior labors of the wax-working bees, and of those who build the cells, giving them the advantage of the margins and angles already formed. The mass of wax prepared by the assistants is applied by the foundress-bee to the roof or bottom of the hive, and thus a slightly double convex mass is formed; when of sufficient size, a cell is sculptured on one side of it by the bees, who relieve one another in the labor. At the back, and on each side of this first cell, two others are sketched out and excavated. By this proceeding, the foundations of two cells are laid; the line betwixt them corresponding with the centre of the opposite cells. As the comb extends, the first excavations are rendered deeper and broader; and when a pyramidal base is finished, the bees build up walls from its edges, so as to complete what may be called the prismatic part of the cell.

The cells intended for the drones are considerably larger and more substantial than those for the workers, and being formed subsequently, they usually appear nearer the bottom of the combs.

Last of all are built the royal cells for the queens. Of these there are usually 3 or 4, sometimes 10 or 12 in a hive, attached completely to the central part, but not unfrequently to the edge of the comb. The form of the royal cells is an oblong, spheroid, tapering gradually downwards, and having the exterior full of holes. The mouth of the cell, which is always at the bottom, remains open until the maggot is ready for transportation, and it is then closed like the rest. When the queen has emerged, the cell in which she was reared is destroyed, and its place is supplied by a range of common cells. The site of this range may be always traced by that part of the comb being thicker than the rest, and forming a kind of a knot. The common breeding cells of drones and workers are occasionally made the depositories of honey; but the cells are never sufficiently cleansed to preserve the honey undeteriorated.

The finest honey is stored in new cells constructed for the purpose of receiving it, their form precisely resembling that of the common breeding-cells. The honey-cells vary in size, being larger or smaller according to the productiveness of the sources from which the bees are collecting, and according to the season.

It is remarkable that all animals that have been long under the protection of man seem to lose a part of their natural sagacity. In those countries where the bees are wild, and unprotected by man, they are always sure to build their waxen cells in the hollows of trees; but with us they appear improvident of their choice, and the first green branch which stops their flight is deemed sufficient for their abode. It does not even appear that the queen chooses the place where they are to alight; for numbers of the swarms, when they conceive a predilection for any particular branch, spontaneously settle on it; others follow their example, and at last the queen herself, finding the majority of the swarm convened together, condescends to place herself among them. The queen being



settled, the rest of the swarm soon flock around her; and in about an hour the whole body seems to be perfectly at rest.

When a hive sends out several swarms in a year, the first is always the best, as well as the most numerous; for, having the greatest part of the summer before them, they have the more time for making wax and gathering honey, and consequently their labors are the most valuable to their proprietor. Though the swarm is principally made up of the younger bees, those of all ages generally compose the number of emigrants; and as a single hive sometimes contains upward of 40,000 inhabitants, such a vast body may well be supposed to work with great expedition.

Much might be said before exhausting the interesting and instructive study of the bee. We have in this article endeavored to point out those features of their social life that are generally accepted by authority, setting aside other and even marvelous facts, which do not appear to be based on sufficient evidence.

(1.) "It is not only an old saying but a common one, at the present day, that when a bee loses its sting, it dies. Probably this has arisen from a personal gratification, but is it so? From our observation, we think bees are not always disabled or mortally wounded by losing their stings. Many times we have had bees continue to try to sting us, also pass back to the hives and among the bees as though not conscious of having lost their sting. We know queens are not disabled to perform their duties by losing a part, or the whole of her wings. A. F. Moon records a case of a queen which had left her sting in his hand, but she continued as fruitful as ever.

(2.) It is conceded by all observing bee-men that the queen, or more properly speaking, the *mother-bee* is not the *ruler*, but the *ruled*. She does not lead out the swarm, but the swarm leads her out; she is averse to the bees building queen cells, and will tear down, destroy and kill the young queens while in embryo, unless watched, ruled and prevented by the workers.—When swarms issue, she does not come forth of her own free will, but is pulled, crowded and dragged out; and many times she tries to return, and sometimes succeeds. She is the *mother of all the community* when a hive is in a normal condition, but when there is no queen nor eggs to raise one from, they frequently have workers which lay eggs that always develop into drones.

(3.) The queen is never accompanied by a guard of 12 workers, neither more nor less; but a part of the time she is accompanied by

workers which caress and feed her, just in proportion to the number of eggs laid.

(4.) Drones never gather any honey, but fill themselves before leaving the hive, and return empty. At any time when honey becomes scarce in the fields, the drones are killed, as there is then no probability of swarming, and consequently no young queens to become impregnated; the only exception to this is in an abnormal colony where there is not a fertile queen.

(5.) When drones are no longer needed in the hive, they are pushed, or dragged out of the hive, their wings gnawed so that they may not return, or even stung to death.

(6.) Occasionally a queen will lay some eggs before mating with a drone; if so, they will all produce drones. Of those laid after mating, produce mostly workers depending upon whether laid in drone or worker cells; and thus she continues from 4 to 5 years. Sometimes from old age or injury, she lays eggs which hatch to drones. The egg which is destined to produce a queen is determined by the workers, and not the queen, for any egg which will produce a worker will produce a queen, by being given an abundance of room and food.

(7.) If so, from where are the eggs procured to produce queens? The same egg that will produce a worker will, under proper conditions, produce a queen.

Eliza, Mercer Co., Ill. D. D. PALMER.

KRETCHMER'S FEEDER.—Some of the points claimed for this feeder by friend Kretchmer, are as follows: "It will do all that other feeders do, and has some advantages beyond even that. It can be set in a common auger hole; it has a firm stand on the hive, and excludes light and rain; the VanDeusen will let rain in around the feeder when feeding from the outside and requires a large hole; mine *does not ventilate* when feeding, but can be used to *close* the feed hole, or ventilate at pleasure when not used as a feeder, allowing the escape of foul air from the centre of the hive, without admitting rain or light, and is hence never glued up."

It can be obtained at this office.

"RED HOT" is what everybody calls the weather of July, this year. It has been hotter than for years. The bees have, seemingly, enjoyed it.

Southern Notes.

Improvement of the Italian Bee.

The Question has been asked: "Has the Italian honey-bee any fixed characteristic mark, by which their purity can be ascertained?"

A German writer of considerable distinction, Mr. Gravenhorst, says "Italians are pure when they bear distinctly and fixedly the marks which distinguish those bees in Italy and Italian Switzerland, in which they have been found existing for centuries past, unaided by special arts of cultivation, and as they exist there at the present day."

To this class of districts belongs upper Italy and Bellinzona, in the canton of Tessin and Roveredo, in the canton of Grisons, in Switzerland, the marks which we find distinguishing the Italian bees there. They invariably show three yellow bands, distinctly impressed. The color of these bands, (of which 2 are broad and 1 is narrow,) varies somewhat, according to the locality. In upper Italy, the color of the bands is somewhat light, while in Tessin and the Grisons it approaches more that of the chestnut, in color. Some are yellow to the extreme tips of the abdomen, while others have bands less yellow or brownish, and from the third abdominal segment their color passes gradually into a darker shade.

Many of these queens produce princesses all uniformly alike, of yellow or brownish color, whereas the daughters of others are more or less dark, not resembling their mother; but all the queens derived from the districts named, without exception, produce workers having yellow or brownish (orange-colored) bands.

Such is the archetype of the Italian bee.—All deviations therefrom are no longer pure, whether passing in one direction or another. Our friend, and others, have admitted that it was formerly customary to maintain in Germany that there was in this bee, even as obtained from Italy and Italian Switzerland, a slight dash of black blood. But our friend does not concede this to be so now, but that in Italy and Italian Switzerland an archetypical race has been gradually formed; and, by careful selection of queens for breeding, Italian queens have been produced, which, as regards their color and that of their progeny, are considerably lighter and handsomer than the original stock.

But he is also of the opinion that these brighter and handsomer bees are the product of artificial, or rather scientific breeding; and of the peculiar circumstances amid which they came into existence, he says:—"It is stated, that the young queens, now bred in America, from imported stock, are brighter colored than their mothers, but can by no means admit that these bees are genuine Italians, because they lack the genuine characteristic marks of real Italians. They are, if we so please to call them, improved Italians; or, they may be more accurately named American Italians."

Dzierzon says, that by careful selection of

queens for breeding stock, he secured a variety in his apiaries, which are prettier or brighter than those procured from Italy or Italian Switzerland. But that Dzierzon's Italians, exclusively, or those brighter American Italians, alone are to be regarded as genuine, is certainly not the fact. He further says that the bright Italian has less economic value, &c.

It is an altogether different matter, when, from a large number of colonies, a selection is made from among the best marked bees and queens, and the best, in all respects, are taken to breed from. In this he admits that no one has been more eminently successful than Dzierzon. His long experience, and peculiar genius as an apiarist, had enabled him to produce in his apiary the most beautiful workers, combining at the same time *all* the other desirable qualities, and very distinguished specimens of these so called "Italian queens."

BRIGHT ITALIANS VS. DARK.

Although our friend admits that the peculiar genius of Dzierzon, as an apiarist, has enabled him to combine all the desirable qualities of these so called "Italian queens," yet, he cannot concede that they are genuine Italians.

Is it possible that our noted bee-keeper, Dzierzon, never purchased any queens from the districts above named, and he the most noted bee-keeper in the old country? It is possible that Dzierzon's light colored Italian bees, and those bred in America, even, from imported mothers, and from the districts as above named by our friend, and as nothing coming therefrom but the "Simon pure," yet, he cannot concede them to be pure, or genuine Italian bees, and calls them "Improved," or "American Italians," from the fact that they are lighter and more beautiful in color, although they bear the 3 distinct and uniform bands that the darker colored ones do; yet, they must be called improved or American Italians!

Now, Mr. Editor, if you or our friend can inform us which horn of the "dilemma" to take, we would be glad. It is not the first time that this matter has been jumbled up. To what conclusion can the novice in apiculture come by reading the description given of the pure Italian bee? First, he says, they invariably show 3 yellow bands, (correct,) the color of these bands varies according to locality. Would not the same rule hold good when shipped to this country? Our friend, perhaps, don't know, and consequently calls them American Italians, and *not* genuine.

Again, in upper Italy, the color of the bands is some lighter, while in Tessin and the Grisons it approaches more that of the chestnut; and as it regards coloring, some are yellow to the extreme tip of the abdomen, while others have bands, legs lellow or brownish, and passes gradually into a darker shade. He further admits that many of these queens produce princesses, all uniformly alike, of yellow or brownish color; whereas, the daughters of others are more or less blackish or dark, not resembling their mothers. But all the queens from the district named will produce, with-



out exception, workers having yellow, or brownish (orange colored) bands.

Here we have several shades of color given, as described and set forth by our friend, which our experience corroborates. As to their varying in color, we often think of the description the old lady gave of her Berkshire pigs. She said, "they were ring streaked, and speckled, but she knew they were pure, as they were bred in Ohio." So with the Italian bees; they vary from light to dark, and some so very dark that they show impurity. They seem to vary as much in color as did the old lady's pigs.—But our friend has given us a very elaborate description of the place where the Italian bee is found without spot or blemish. As nothing is found in the districts named but the pure Italian bee, we would advise our importers to obtain bees from the districts named.

We have bred the Italian bee from both home-bred and imported mothers, ever since its first introduction into this country; while a large majority of the queens bred workers of uniform markings, viz.: with 3 yellow bands, but of various shades, as well as various grades of color, we have also found that the queens often differ, as to color, as do the workers. So far as it regards the economic value of them, we have only found that it lies in the scale of the color of them—not in the superior qualities, such as prolificness, hardiness and their ability to store honey, &c. But the beautiful, bright-colored Italian bee finds much quicker sale than the dark; and the brighter the bee, the greater the value. These bright Italian bees, although bred direct from imported mothers, our friend Gravenhorst calls imported, or American Italians, and concedes them genuine, yet admits that some of the queens, as found in Italy, are yellow to the tips of the abdomen; and from the description given of the various colors, as produced from the different localities, that they, too, differ much.

The question will be asked, no doubt, why Mr. Gravenhorst calls these bright, or light-colored Italians impure, although bred from imported mothers? If the bright, or light-colored Italian bee breeds her workers uniform in their markings, then they are as pure, and we have very good reason to believe purer than those of a much darker strain. However, we will not argue this further, but will say, if the description of the Italian bee is correct; from its first history there has been two classes or colors described, the light and the dark; and the preference was given to the light golden color,—but not until within a few years—since the darker class has been largely imported did we hear that they were superior to the brighter color, and we cannot but think our friend in error, when he calls the bright yellow Italian bee, as now bred in this country, impure.

Can it be possible that the American bee-keeper cannot tell when his bees are uniform in their characteristic marks, when it is a well known fact that America leads the world in apiculture?

About those queens producing princesses uniformly, while others not duplicating themselves at all, is evidence of their not

having any fixed characteristic mark of their own, as to duplicating themselves in points of color. Here we agree with Mr. Gravenhorst, and will further say that we believe that neither Mr. Gravenhorst or any other man can produce Italian queens that will duplicate themselves every time in their color. It cannot be done with the Italian bee any more than it can with the human family! Take any Italian queen and raise 25 queens from her, under any circumstances, and some of the queens will vary in shades of color. Well might friend Dadant say he could not see how a light-colored queen could produce dark-colored daughters, and *vice versa*; and suggest that perhaps it was the honey, pollen, or the weather being too wet or cold, the wind blowing so, and so, or electricity. Why not say they were reared in the wrong time of the moon?

From careful experience and observation, we have found, while breeding from the best imported Italian bees, that they will produce queens all the way from a golden color to a jet black; yes, even to a shining black. We have tested some of these shining black queens, bred from imported queens, from the districts described by our friend, and found that they bred as bright and uniform workers as any bees that we have ever seen.

We once received a queen from Rev. A. Salisbury, of Illinois; although quite a small one, she bred the largest bees, and was one of the most prolific breeders that we ever saw. Her bees were as uniformly marked as any could be, but her queens were of different shades of color—all good—and she often bred a dark queen, black as black could be; and these black queens produced the handsomest and brightest workers we ever saw.

We received an order the other day for an Italian queen; the order for which said, "Send me a queen that will duplicate herself every time as to color, viz.: bright yellow." He wanted no other. Well, we could not fill this bill, and we did not believe any other man in America could; we knew of none, unless it was those spoken of by our friend, that produce princesses "all uniformly alike." If such queens can be found, they will command any price asked for them; but they will not be found in this generation.

ARE BEES PROFITABLE?

The above question is frequently asked, and we can only reply "no and yes." If bee-keepers insist on managing bees as did their ancestors, they will find it a rather discouraging task; on the other hand, if they will manage them under the new system of bee-keeping, with a little knowledge of their habits and requirements, the result must be one of profit and pleasure.

Remember, the very first element in successful bee-culture is an intimate knowledge of the bee, and this can not be acquired in a day, although very easily learned when the novice is ready and willing to apply himself to the study and nature of their wants and habits. It can not be acquired in a day from books. Every step that is taken through the labyrinthian

mysteries of the bee hive, only fits and qualifies for success in the enterprise.

We would recommend to beginners, if profit be their object, to commence with only a few colonies, in a good, simple, movable, frame hive. This will enable them to often inspect the interior of the hive, and every inspection will prove a valuable lesson, and will enable them to more wisely enlarge upon their investment—bearing in mind that strong swarms are the ones that pay, and he should ever labor to keep all in that condition. The beginner, of course, has in his mind in what special product he will receive his profit—bees or honey. He must consider that one is at the expense of the other. If he wishes a large yield of honey, he can not expect to increase his stock so fast as if their stores are left with them, and given to them in artificial swarming, as every comb, whether containing brood or honey, adds great strength to the colony. The apiarist is laboring for dollars and cents, and the greatest amount that can be procured from a single colony.

Then the question is, "bees or honey?"—If bees exclusively, then at the expense of the surplus honey; and by artificial swarming, they can, in a good honey season, increase their stocks very rapidly. But always keep colonies strong.

"But," says one, "we want honey."—Then you must proceed in a different way. If honey be the object, you will need all the bees that your hive will produce, kept at home, for surplus honey. Besides, your hive must possess sufficient capacity to engage all the bees in labor. Room must be given for a strong and constantly increasing force of workers, or they will be compelled to either leave for the woods or to hang idly outside of their hive, simply for the want of room. The beginner should remember that the greatest number of bees that they can keep at work in the boxes, the larger amount of honey he will receive for his trouble. A colony of bees in the spring, with a plenty of honey, brood and bees, will be very apt to give their owner 100 lbs. of honey in a good season.

For a beginner to produce such results, he will, of course, need to study the best way of applying boxes, that his bees may have the greatest facility for their work.—We manage them in this way: Put on the boxes as soon as the bees begin to work in the spring. As soon as they get fairly at work in the boxes, building comb, raise up the boxes and place an empty set underneath them. This will draw up nearly all the surplus bees, uniting their work with boxes and hive, thus giving the queen full control of the brood-nest, which, if not given, the workers would occupy too much of it for honey, thereby lessening the strength of the colony or causing them to swarm out.

We keep adding boxes as above described, until we often have from 4 to 6 set on at a time. Adding boxes in this way, the surplus honey is nearly all stored above, and the queen, with a sufficient force, will manage matters below. Following this plan, a large force of workers is continually being added, which is the life and prosper-

ity of the colony, and the profit of the bee-keeper.

In the question of profitable bee culture, there is involved a question of resources.—The floral treasures of the country must be taken into consideration. There are portions of our country where bee-keeping would not prove so successful. A very little portion of it but a few colonies may be kept for the benefit of the family. We have hardly made a commencement upon the honey capital of the country, and the large amount that is yearly gathered, is but a drop saved from that yearly going to waste. Where honey plants are not a natural growth, we have many kinds of plants that are soon brought to yield a large amount of honey. All that is required is a little trouble in sowing and setting out trees, that will soon pay largely for the honey alone. The linden tree will grow in almost any soil, and yields largely in honey of the finest quality.

Commence on a small scale; study the habits and nature of the bee, and with interest and energy the beginner will be likely to succeed every time.

Rome, Ga.

A. F. MOON.

From Our Home Journal.

Bee Pasturage in the South.

Apiculture in the South could be made much more profitable if more attention were paid to the cultivation of the honey producing plants. The principal source of honey in the States south of Tennessee are the fruit blossoms in early spring—the Black Gum (*Myrica Multiflora*), which yields large quantities of honey; the tulip tree, and a few other flowering trees and plants of minor consideration. We have no large fields of clover, no basswood groves, no acres of buckwheat. We have a few bees in old boxes, logs and kegs, stowed away among the weeds, and often by piles of promiscuous rubbish. If, perchance, they make their unworthy owners a few pounds of surplus honey they are considered to have "done well;" but if they fall a prey to neglect and the worm, they are set down as "unprofitable servants." No one can expect to breed and rear fine stock without thorough attention. He must provide for all their wants. He should have his fields of corn, oats and grass. The bee is no exception to the rule. It does not and cannot gather honey from every opening flower, as many persons suppose. They need proper pasturage. It is impossible for bees to be any source of profit in a section of country where there are few honey-yielding plants. It should be the duty of every bee-keeper to cultivate as many of such plants as possible.

White clover will grow and do well in most all portions of the South, if the ground is well prepared, and not too sandy or poor. Where shade trees are to be planted in our yards, or along our lanes or highways, it would be best to plant such as make good, bee pasturage. The Linden is a tree to be particularly recommended. This is a tree of quite rapid growth, fine foliage, beautiful appearance, and makes a good shade.—



It grows and thrives well in Middle Georgia, and I have no doubt would do well in any portion of the South. Last season the writer sowed a plat of ground to buckwheat in the middle of July, which made a fair show, but had it been sown in August or the first of September, it would have done better. My bees luxuriated on it as long as it blossomed. My experience is against the opinion that has been advanced, that the buckwheat is worthless in the South as a honey plant. All honey-producing flowers, in every country, are liable to vary in the amount of their saccharine secretion with the peculiarities of the season. Hence, because a flower fails to yield its sweets one season, is no reason why it may not abundantly do so the next. Catnip (*Nepeta Cataria*) is also rich in honey, and should be planted in every nook and corner, in all of the out of the way places.

The writer would suggest to all beekeepers to take note of all plants that bees frequent. Note the time of commencement of bloom and the duration, also the approximate increase of honey stored during the time such plants are visited by the bees.—Observations of this kind, made as carefully as possible, would do much to advance bee-culture in the South.

J. P. H. BROWN.

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For the American Bee Journal.

Standard of Purity.

The call for a standard of purity in the Italian honey bee is a move in the right direction, and should never be dropped until the desired end is attained and the result published in the form of propositions, by which dealers in Italian bees are to be governed. We give the following:

The queen's abdomen, a bright yellow and tipped with black, with or without black points on the back. In workers, the first band next to the thorax very narrow; the second one broad, and separated from the first by a very narrow black ring; the third and last, not so broad as the second, but well defined; the yellow free from mottles, and the bees in the same colony uniformly marked, though the shade of color in different colonies may vary from a pale, light yellow to a heavy leather color. Drones more abruptly marked than workers; the bands not so uniform, and interspersed with black clouds with well defined margins; the under surface of the abdomen yellow.

The above is our standard of purity.—Before leaving the subject, we wish to call attention more closely to some peculiar markings of workers and drones: The exterior of the abdomen of each is composed of segments. In the Italian worker, the first 3 of these segments are a bright yellow. The posterior margin of each is marked by a black border, which separates the yellow into 3 bands in the pure stock.—The remaining segments are black, the middle of each is marked by a copious growth of yellow or light colored hair or down, and when the down is very light on the bees, some call them albinos.

Diametrically opposed to the above is the markings of the drones. As with the workers, the first three segments are principally yellow, but contrary to them the black border is on the anterior margin of these segments. Want of prominence in the first segment makes it hardly discernable. In the second segment the black anterior border stands out boldly, while the remaining part of the segment is yellow. In the third segment the black border is overlapped by the yellow of the second and does not appear so bold as the preceding, while the remainder of the segment is intermingled with yellow and black and at the same time overlaps the next. These give to Italian drones that peculiar marking which tends to excite admiration. The remaining segments may slightly share the yellow on their posterior margins.

S. D. McLEAN.

Culleoka, Tenn., July 9, 1878.

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From the Home Journal.

What is Honey-Dew?

Honey-dew is a substance—not an element, but composed of elements. These elements must be compounded somewhere. The composition takes place in plants.—Every plant is a laboratory within itself.—All our sugars and sweets come from plants, and are taken into the plants in an elementary form through the leaves.

Plants, like animals, are so organized as to throw off by excretion excessive matter. They sometimes imbibe too much of the one element, or too little of the other, and for want of proportion of the elements, assimilation is retarded, and then the plant relieves itself by excretion. An undue proportion of the azotized and the unazotized substances causes our large forests of oak, hickory, and many other trees to excrete that sweet, gummy substance, known as honey-dew. It is this that causes the grass of the broad Western prairies to become so gummy as to adhere to the feathers of the wild turkeys and other birds that wade through it, till they cannot fly. It is this chemical derangement of plants that causes honey-dew.

Says Langlois: "I observed, during the dry summer in 1843, that the leaves of the linden tree became covered with a thick, sweet liquid, in such quantity that for several hours of the day it ran off the leaves like drops of rain. Many kilogrammes might have been collected from a moderate-sized linden tree.

In Grisen, Mr. Trapp possesses a *clerodendron frangraus*, growing in the house; it exudes on the surface of its leaves, in September, large, colorless drops, which form regular crystals of sugar candy upon drying; showing the change proportional of carbon, hydrogen and oxygen as the season changes and the organic activity of the leaf changes. The proportion is not assimilable nor nutritious to the plant; the plant organs in their functions excrete it.—Thus we have honey-dew, a product of plants by chemical derangement.

Says Liebig: "In a hot summer, when the deficiency of moisture prevents the

absorption of alkalies, we observe the leaves of the lime tree, and of other trees, covered with a thick liquid, containing a large quantity of sugar; the carbon of this sugar must, without doubt, be obtained from the carbonic acid of the air. The generation of the sugar takes place in the leaves; and all the constituents of the leaves, including the alkalies and alkaline earths, must participate in effecting its formation. Sugar does not exude from leaves in moist seasons; and this leads us to conjecture that the carbon which appeared as sugar in the former case would have been applied in the formation of other constituents of this tree, in the event of its having had a free and unimpeded circulation."—*Agr. Chem.*, page 135.

"The assimilation of substances generated in the leaves will depend on the quantity of nitrogen contained in the food. When a sufficient quantity of nitrogen is not present to aid in the assimilation of the substances destitute of it, these substances will be separated as excrements from the barks, roots, leaves and branches. The exudation of manile, gum and sugar in strong and healthy trees and plants, cannot be accredited to any other cause."—*Liebig*.

Many other scientific and agricultural chemists have written similarly touching this subject; and I think it is well substantiated that honey-dew is a production of plants, and is exuded by plant force—not insects. That honey-dew falls, that it is extracted by puncture of insects, and the many other ways equally fallacious—is argued by too many who are well capacitated to know better, if they were only more thoughtful and investigative and less willing to be deceived.

K.

Smith's Grove, Ky., July 8, 1878.

Chattanooga, Tenn.

"The question has been often asked, 'Will queens sting?' I will give my experience: Last summer, while experimenting with virgin queens, I noticed, on two or three occasions, while holding them between my thumb and finger, they would curve their abdomen and thrust their stings out just as a worker would under similar circumstances. I was always very careful that the sting should not come in contact with my fingers. Although I have never been stung by one, yet, to judge from their actions, I should say emphatically that a virgin queen will sting if provoked." H. C. DODGE.

☛ About the first of June, friend J. W. Winder, of Louisiana, was taken sick, and has been bed-ridden ever since. We learn with regret that he is still very weak. Had this sickness not intervened, he would, we hope, ere this have fixed up that matter of which Novice complained in May last. *THE AMERICAN BEE JOURNAL* neither approved the attack by Novice, nor the defense by Mr. Winder. A moral obligation can never be liquidated by malice, neither can it be paid by quietly submitting to real or supposed abuse.

Foreign Notes.

Italian Bees in Australia.

In a California paper we notice a letter from Queensland, Australia, from the Hon. Angus Mackay, concerning the successful introduction of Italian bees into that section of Australia. The editor remarks:

"For many years past, efforts have been made to introduce them, but they failed to 'cross the waters' alive, when Mr. Mackay was with us here, as Queensland's Commissioner, he desired us to prepare one of our best stocked hives, that he might take them on with him. We, therefore, selected one of our largest and best colonies, having ample brood comb and a full stock of honey; we prepared it with a fine wire cage on top with holes for the bees to pass up for air, and made all the needed fixtures to have it go on safely; but, however careful our work may have been done, we accord to our honored friend's continued care of the bees on the voyage their final grand success. Mr. Mackay took them into his state-room and had them lashed to the side safely, and on pleasant and calm sea days rolled them out on deck to give them air. Mr. Mackay watched his 'pets' with great care and kindness—he did his work with the bees as he had performed all his duties as the Commissioner, faithfully and splendidly, and hence the success.

A Cure of Foul Brood.

On June 21st, I discovered that a colony received from Baron Rotschultz, of Posen-dorf, Carniola, had become foul broody.—A few days after its arrival, in spite of feeding, the number of bees did not increase. But as foul brood is unknown here, and I had never seen this malady, I thought that the small quantity of the brood, the lack of industry and desire to build combs, were the result of weakness or old age of the queen; and I resolved to replace her, on the first opportunity, by giving the colony a queen cell. I gave the colony some brood from other hives, but the sickness of the colony increased, and seemed to come from the fermentation of a liquid substance. Then I resolved to further examine the hive.

I saw that the bees were mainly on the brood comb that I had given them, and that the brood which came with the bees, from Posen-dorf, was altogether isolated; that the capping of a dozen cells were deeply pressed down; that all the honey in the uncapped cells (there were no other in the hive) was fermenting, and that the bad smells came from the combs from Posen-dorf. I cut with a penknife some of the cells whose cappings were pressed down, and saw the brown matter they contained. Then I discovered the cause—foul brood.

I had on hand a little salicylic acid—a substance which is very dear. Then my



eyes met a vessel full of soda. Soda stops fermentation more readily than salicylic acid. I resolved to try soda, before getting salicylic acid. I prepared a pailful of a strong solution of soda and water, warmed by the sun. The first frame was dipped in the solution several times, together with its bees and honey. A few bees swam, the others clung firmly to the comb and were put back with it in the hive. I gathered the swimming bees with a skimmer, and put them in the sun to dry. None of them perished; and after a few moments all returned to the hive. Fermentation and smell disappeared immediately from the immersed combs.

After this, I dipped in the soda, all the combs coming from Posendorf, with their bees and all. The queen had fled to the sound combs that I had given to the colony. Mr. L. Kraneher, publisher of the *Bienenfreund*, visited my bees and also noticed the foul state of this hive. A few days after, I resolved to bathe the queen in alkaline water, when I noticed her foul smell. For the bath I used 250 grammes (about 9 ounces) of carbonate of sodium, in a pail of water, containing 8 or 10 litres, (quarts), in which I mixed a little salicylic acid.

The result is complete, so far, July 15.—The smell of the hive is normal; the brood is fast spreading; there is now capped honey in the hive; the bees now show some readiness to sting; they had none when they were sick; the pressed cells, that I had opened before bathing, have disappeared to such an extent that it is impossible to detect one, even with the most careful search; and the bees begin to fill their empty frames with comb.

This remedy seems more advantageous than the solution of salicylic acid; not only on account of its cheapness—10 centimes (2 cents), instead of 3 francs (75 cents)—but also on account of its prompt effect. Instantly—the queen, bees, honey, brood, combs, frames, and everything was purified of the disease.

This remedy was not only administered externally, but as the bees were compelled to suck the lye mixed with the honey, the disease was annihilated in their stomachs. The bathed bees were also purified externally. The drying of the wet bees and of the combs was soon completed by the warm weather. That the bath kills the uncapped brood, is of very little consequence, when compared with the other advantages of this remedy.—A. C. Kernann, of Thurm, in *Deutscher Bienenfreund*.

From Dom, Poultry Gazette.

What a Woman knows about Bee-Keeping in South Australia.

"Granger Kate" discusses this subject in the *Southern Farmer*. She says a good many things that apply here as well as there; but unfortunately the grub has come in upon our hives and destroys our calculations unless the utmost vigilance is employed.

It requires but a small capital to start

bee-keeping with on a small scale, and as skill and knowledge increase, numbers increase. The fear of being stung deters many from keeping bees who would otherwise gladly engage in it; and really, to some, the sting of a bee is no small matter. To have one's eyes closed up for a day or two, and perhaps suffer with a severe headache the while, is by no means pleasant.—This, however, can be avoided by providing one's self with veil and gloves.

A cheap and easy way to make a bee veil, and as good as any, is as follows: Procure a piece of plain, coarse, black cotton bobinet, sew it up as a sack, run a draw string in the end, which can be tied round the crown of the hat—any kind will answer—put a string in the lower end also, to tie round the neck, or simply tuck it in around the neck, which will answer quite as well. Should a bee strike the veil with the intention of stinging, the brim of the hat will hold it at sufficient distance from the face to render it impossible for it to reach one.

Gloves can be rubber, or thick, coarse, home-knit woolen gloves, wet in cold water previous to using.

The best thing I ever tried for a bee sting, to neutralize the poison and relieve the pain, was lye soap or common soda; either will do.

Gentleness and the judicious use of a little smoke, are the most effectual bee charms. No one should attempt to keep bees in anything but movable frame hives. The time to make bee-keeping successful and profitable in the old logs and boxes is gone. They afford too many hiding places for the moth and its progeny of worms, and make it too difficult, indeed next to an impossibility, to extricate them. A good, plain, moveable frame hive, well painted, will last a long time. In reality, there is no such thing as a moth-proof hive, and he who sells one as such is either an ignoramus or something worse. Common sense will teach anyone that where a bee can enter, a moth can enter. The secret of success in keeping down moths is to keep your colonies full and strong, in close, well-made hives, and the bees will attend to the other part of the business themselves. The bee-keeper is rich in proportion to the strength of his colonies, and not the number of his hives. If one wishes bees to do well, by all means keep the colonies strong.

Foreign Items.

GLEANED BY FRANK BENTON.

ARTIFICIAL COMBS.—M. Junger, of Jailien, writes to the editor of *L'Apiculteur*, Paris, as follows: "I send you a little box containing a sample of artificial comb. As you can see the affair is still in its infancy, but it will grow. I have only made the cells on one side. What I am trying to determine is whether it is possible practically to make wax combs resembling very closely natural combs. So far good; I have proved that one can make combs somewhat

like those constructed by bees, so far as regards dimensions and construction. In another package I will send you a sample having cells on both sides. This indicates the truth of what the abbot Webber has asserted for two years, namely, that the production of artificial comb as it is now made, that is with only the middle wall or septum is still in its infancy." *L'Apiculteur* says the comb made by M. Junger is excellent, and gives hopes of a work similar to that of the bees.

STINGS.—"Still another remedy for the certain cure of bee stings! Take a fresh tomato leaf, crush it, and rub upon the part stung. The pain will disappear immediately, and without the slightest trace of swelling. We would like to be able to transmit to posterity the name of the discoverer of this method."—*L'Apiculteur*.

M. E. FRANCOIS, of Catillon, France, has published a 16-page pamphlet entitled "*Nouvel Aperçu sur les Abeilles*," for some years. In the last number, which is full of strange statements, M. Francois says there are male bees of two kinds: "Female males and male males." He "has seen males lay."

MERITED HONORS.—Herr Gustav Budiegizki, President of the "Society for the elevation of bee-culture in Bohemia," spoke as follows at the Carlsbad Convention: "Director of Chancelory Cori, of Breux, Bohemia, has, in union with the worthy Count Kolowrat, Krakowsky, rendered very great service by the importation, acclimation, culture and introduction of the valuable Cyprian bees, and therefore I cannot refrain from expressing publicly my thanks to the noble Count, and, as President, in behalf of the Association, to bestow upon Herr Cori the diploma betokening the highest honors." This gentleman made the following reply: "Highly esteemed officers of the Association: Words to give fitting expression to my thanks and to the feelings of my heart for this unexpected honor, fail me. The worthy Association will, however, accept in return my warmest assurance that I will further work for and serve its interests so far as time, opportunity and strength are granted me." [Applause.]

One cannot help but wonder if the bee-keepers of America will as readily give

proper credit to the worthy gentlemen in Massachusetts who have been enterprising enough to bring the Cyprians to America.

For the American Bee Journal.

Hannemann's Bee Sieve.

Mr. Hannemann, a German bee-keeper residing in Southern Brazil, writes in substance the following to Herrn R. Mayerhoeffer, editor of "*Der Bienenwatter*," of Prague, Bohemia:

"In districts where bees swarm so often that the bee-keeper is compelled to kill a number of his colonies every autumn, this sieve is of great use. Swarming should be hindered in colonies that are intended for honey-producing. But weak colonies cannot be used for this purpose, and here comes in the use of the sieve. It is better to have a few colonies in an excellent condition than many in poor condition. I can secure the conditions for honey-storing if I separate the queens from the bees designed for honey-gathering, by inclosing the former in cages placed in the center of the hive, so as to hinder brood-rearing. Mr. Hannemann uses hives containing 11,000, 13,000, and 31,000 cubic inches respectively, containing 11, 13, and 14½ kilogrammes of bees. During 1876 he made a large hive containing a space of 31,500 cubic inches and placed therein 36 kilogrammes of bees. This hive furnished 244 kilogrammes of comb honey and 9½ kilogrammes of clear wax. Of course I divide my bees in stock hives. The giant colonies in these honey-producing hives have lost their bees by the end of the harvest, but I have no more need of them for it was the harvest I wished to secure. The queens, however, having been kept from laying during the season, are at its end in good condition and prolific."

I think Mr. Hannemann's system would be very good for all countries where bees swarm considerable and where a good pasturage without interruption exists. It must be best adapted to the Southern States and California. I request my bee-keeping brethren to experiment in this direction and send me their reports, or else communicate them to the JOURNAL. R. MAYERHOEFFER.

MANUAL OF THE APIARY, by A. J. Cook, Professor of Entomology in the Michigan State Agricultural College. Second edition, revised, enlarged, mostly re-written and beautifully illustrated. Published by T. G. Newman & Son, Chicago. This work is exceedingly valuable, indeed, indispensable, to apiarists, as it contains the latest discoveries and most recent improvements in methods of apiarian management and bee-keeping apparatus.—*Voice of Masonry*.

The honey bee has come to the front with the perfume of summer flowers, and one of its best friends, A. J. Cook, professor of entomology, in the Michigan State Agricultural College, has written its history, its habits and its home and how to tame it—in a handsome bound volume, amply illustrated.—*Chicago Daily Post*.



Correspondence.

For the American Bee Journal. A Young Man's Experience.

My information in apiculture began with the winter of 1876, when I began perusing "Quinby's Mysteries of Bee-keeping;" and purchased 10 colonies of hybrids in box-hives. I transferred them in the latter part of April, 1877, to the Langstroth and Quinby hives, but 3 of them had dwindled. In June, I received 3 more in place of them.—On May 26, I divided one of the strongest, so as to obtain queen cells and queens for other colonies when I divided them. In 10 days afterwards, I took out 10 queen cells, leaving 1, out of the 16 started 9 days before. Four of the cells were used in dividing, while 6 were put into nuclei hives. I also made colonies by taking 2 frames with some brood, and putting them into an empty hive and introducing a queen cell or queen.—Sometimes I had to strengthen them with a frame of brood. Keeping reserved frames in nuclei hives, during the season, I found profitable. Colonies were also made in August, when buckwheat was yielding bountifully, and did well.

As I was working at home, for father, I intended not to let a colony swarm naturally; but on the 30th, of August, as I was extracting, I found a double handful swarm on the cross-bar that holds the boards which covers the bee hives; and, not expecting a swarm at that time of the season, I brushed them off; but they flew back to their place again. I went on extracting, but a few minutes after, they appeared like a swarm in the air, and soon settled on the board that shaded the hives; then I tried to catch the queen; she flew up in the air and back to the bees several times before I could cage her. Only 1 drone accompanied the swarm. I put the little swarm into an empty hive with a couple of frames of brood and bees, and gave them a good smoking when uniting them, giving them a frame of brood every few days, until their hive was full. They became one of my strongest.

I got some comb foundation, which I liked very much. I tacked a strip of paste-board with the edge of the comb foundation to the under side of the upper bar in the frame. In putting surplus boxes and sections for surplus honey, I discarded the honey board, believing they will work faster, and go up into the boxes sooner when it is removed. I also learned that taking a section of comb and putting it between empty sections will make bees go up immediately.

We got but very little honey from fruit blossoms. White clover commenced to bloom June 10, but there is not much of it in this vicinity. Basswood bloomed the 21st of July, lasting only about a week.—The bees were busy on it while it lasted.—Just as the basswood season ended, buckwheat began, and lasted 5 weeks, yielding abundantly. It was from buckwheat that I got most of the honey this season. I

extracted all the honey in the beginning of the buckwheat season, so they wintered on it. I got in all, of extracted honey, 377 lbs. 7 oz.; with comb honey I was not very successful; but few would work in sections; from my best colony I got 72 lbs. and 13 oz. In all I got of comb honey was 138 lbs. and 14 oz. I think I could get 300 or 400 lbs. more of buckwheat honey, had I time to extract it.

I commenced this season with 8 colonies, most of them in Langstroth hives; next season they will all be transferred to the Langstroth hive. There are but few bee-keepers here, only one in this vicinity who applies science to apiculture. To "Langstroth, on the Honey Bee," and the AMERICAN BEE JOURNAL I am indebted for many valuable hints in apiculture. Long may the JOURNAL wave!

Avon, Wis.

T. DUSTRUDE.

For the American Bee Journal.

Bright Wax Sheets.

DEAR EDITOR. In the same mail with this letter, I send you a sample of sheets of wax. Some of it is pressed in a pair of rude plaster dies, by myself. This wax is quite different from the foundation on the market, being harder, not so easily melted, lighter in color and not having so much odor. It is made exclusively from white clover, being melted from caps that are shaved off in extracting. It does not get brittle by chewing; it does not stretch in cool weather, and in moderately thick sheets, the size of the sample, has stood the hot weather with very little sagging. It can be pressed in beautiful sheets for the section boxes, almost as thin as paper; and such sheets my bees have thinned out, in a number of cases, until the difference between that and natural comb is imperceptible.

I would like some information as to the qualities of wax from different parts of the country. Is it well known that the fat of animals varies in quality with the kinds of food? I suppose it is similar with the wax secreted by the honey bee.

I have tried several methods of strengthening foundation, to prevent sagging in warm weather. The most feasible appears to be to insert waxed threads, or narrow ribbons of strong, thin paper between thin sheets of wax, and then run through the machine. The sheets that I pressed in flat dies adheres well, and the bees draw out the cells without cutting out the paper.—Possibly threads might be worked in by the roller machines, by simply laying them upon the sheet of wax before running through.

I have one beautiful straight sheet of comb, in which are 4 thin strips of wood, to which the foundation was fastened. The strips of wood were put upright in a Langstroth frame, about 4 inches apart, and the foundation lapped on them and fastened with a little melted wax. It came within half an inch of the bottom bar, the strips resting upon the bottom. There could be no sagging in this case, and the comb was

built out over the sticks and finished up in workmanlike order. WM. C. PELHAM.
Mason Co., Ky., June 1878.

[The sheets of wax are of very bright color, quite brittle, and almost odorless.—Being pressed in plaster moulds, of course the corrugations are not as perfect as those made by roller machines.—ED.]

For the American Bee Journal. The Standard of Excellence.

FRIEND NEWMAN :—The highest standard of excellence to which Italian bees can and should be bred, according to my ideas, would be about as follows, commencing with the

QUEEN.—She should be a bright yellow in color, good size, with large, strong wings and legs. Her queen progeny, when reared naturally, or under the swarming impulse, should be *exact duplicates* of their mother.

THE WORKERS should show 3 very distinct, bright golden bands. The wider the third band, the purer I think them to be.—If the dark edge on the bands can be bred off, which I think can be done, all the better. They should have large, long, tapering bodies, wings coarse and strong, and be very gentle to handle, and *Industrious*.

DRONES :—Now I think we come to *one* of the *severest* and *best* tests of all. They should have 3 *wide*, golden bands, and every drone be alike, as uniform in color and markings as are the workers. When I say 3 bands, I mean that each of the 3 bands be yellow its *full width*. Merely 3 narrow, brassy streaks won't do at all. The larger we can breed the drones, the better.

Brother bee-keepers, how can we expect improvement, as long as we allow these poor, little, insignificant drones, with perhaps one and two, narrow, brassy, *hair streaks* to mate our queens? We stand in our own light, just so long as we allow it.—This is no theory with me, but practice, as my bees will show. I have made great improvement in my bees, during the last few years, and hope to see the day when every colony I have will come up to this standard, as a few I now have does.

To prevent useless correspondence, I will say that I have no queens of this kind to sell yet. Must keep them for "seed," as queen mothers, as well as mothers of those fine drones.

Will some of the knowing ones please explain through the JOURNAL why Italian queens *do not*, and if they *should not* produce drones as even in color and markings as are the workers, when it is claimed that the drones are the true offspring of the queen, and are not affected in the least by the drone that impregnates the queen?—Gentlemen, speak out. Give us your ideas upon this matter.

My opinion is that the Italian bee is *not* a pure race at all; but I am very sure that by careful selection we can breed them up to perfection, carrying along all the good qualities, hardiness, prolificness, size, color, gentleness, &c., until finally we breed every

trace of impurity out of them; then we will see one of the finest races of bees in the world, that will breed queens, workers and drones, constant in markings, color, size, &c. The majority of my queens produce beautiful workers and drones, but the queens themselves are rather dark and the drones are not as uniform as I would like them yet.

Who will be the *first* one to offer queens up to this standard? Time only will tell.—We hear of drones with "red heads" and "gray heads," and I often find them not only with "red heads," but their whole bodies red. Being of one solid color throughout, they look beautiful among the yellow workers. Hoping to see through the JOURNAL the ideas of others on this subject, I will close. Jos. M. BROOKS.

Elizabethtown, Ind., July 4, 1878.

[Friend Brooks sent a few of his "fancy" drones to this office. They look nice, with their "three golden bands," while living, but after death they lose their charms like all other "things terrestrial," and appear just about like "the common herd." We have some in one of our colonies that look just like them. Perhaps it is just about right to have the subject of "the improvement of the race" discussed now; and, if possible, let the most remote traces of impurity be rooted out, breeding this race of bees up to perfection. We fully believe that the time is not far distant when the American strains of Italian bees will be sought after the world over—for in no other country are they devoting so much attention to scientific bee culture, or the improvement of the race. Let us give the subject a *full* and free discussion.—ED.]

For the American Bee Journal. Rust's Excelsior Bee Hive Entrance.

I claim for this entrance as follows :

1. Its wide and easy range of adjustability.

By simply operating the wire handle, by drawing as far as possible to you, you then have it closed so that workers *only* can pass; this is to shut the drones out when too numerous. Now push $\frac{1}{8}$ of an inch, and you close it entirely up, with but very little ventilation; this is for moving.—Push $\frac{1}{4}$ of an inch more and you open 4 holes; this is to be used when there is danger of robbers. Push $\frac{3}{4}$ of an inch more, and you open 16 holes for general use, when not too hot nor too cold. Push $\frac{1}{2}$ of an inch, and you have but one hole open, with half as much ventilation as when the 16 holes are open; this is used to prevent robbing in the worst cases. Push $\frac{1}{4}$ of an inch, as far now as you can, and but 2 holes are left open; this is to prevent robbing when they are not too mad.

When more ventilation than can pass through the holes is wanted, the whole



entrance can be turned up enough to suit, or entirely up, so that the whole entrance in the hive is open.

2. The case with which it is attached to any hive with open entrance like the Langstroth.

All that is necessary to fit and attach it to a hive is to measure the length it should be, and then cut the farther end from the wire off with a pair of shears. It should be $\frac{1}{8}$ of an inch short. Bore a gimlet hole through where it wants to be, to admit the wire handle; pass the wire through the hole and drop the entrance on the bottom of the hive; now with a brad-awl bore holes for the staples, put the staples in as close as you can and allow the entrance to turn readily, and the job is done.

Fort Worth, Texas. ALBERT D. RUST.

[We have before us one of these Entrance Regulators. It is ingenious, and is well described by friend Rust. The greatest objection to it, that we can see, is its liability to prove a Guillotine for many a hapless bee. It is easily operated, and without such danger, it might be a convenient Entrance Regulator.—Ed.]

Artificial Swarming.

"My bees are doing nicely, only I can't keep them from swarming. Please give us more light on artificial swarming through the JOURNAL. I have gathered a great deal of information from it, but need more. If I could have swarming under my control, I would consider bee-keeping an independent business. It is very annoying to get bees down from trees 20 or 30 ft. high, and they seem to swarm more on Sunday than any other day. The JOURNAL is always a welcome visitor here." L. Z. LANTZ.

Logan Co., O., July 1, 1878.

[Artificial swarming, or, more properly, the dividing of colonies, can be accomplished with ease. When the colony is very populous, about the middle of a warm day, take another hive of the same pattern and size of the one you wish to divide, and remove five frames, containing brood and honey, with the adhering bees, to the new hive, *being careful not to take the queen* from the old colony. Give each colony enough frames, either empty or filled with comb or comb foundation to fill it. These frames may be placed all at one side of the hive or between others, if the brood be not divided thereby. Comb foundation is very serviceable in building up such colonies, giving them room so quickly for the queen to lay her eggs or to supply honey-storing capacity.

If you have extra queens, it will be best to give the new colony a queen; or, if you have a queen cell to give them, it will be

well. If neither be at hand, they will raise one from the brood supplied to them from the old hive.

When the operation is commenced, place the new hive close to the old one, giving each one-half of the old location. Then daily move them a little further apart, until they are in a suitable position.

When several colonies are to be divided, a better plan is to prepare several nuclei colonies in advance, placing them into full-sized hives, and then take a frame of brood with adhering bees from each of the old colonies, giving these frames to the nucleus colonies, and thus obtain increase without swarming.

Every beginner should procure a good Manual, and study it well, not only to master the subject theoretically, but to have authority at hand at all times to consult, whenever matters occur in the apiary with which he or she may not be practically familiar.—Ed.]

For the American Bee Journal.

A Plea in Favor of the Italian Bee.

In the last number of *Gleanings* I noticed an article entitled "A plea in favor of black bees," from G. B. Peters, of Ark. It is not my intention to dispute Mr. Peters, but try to put in a plea in favor of Italian bees.

This last spring having an opportunity of buying several good strong colonies of black bees in the old-fashioned box hive, and thinking that I had better carry on the experiment of Italian vs. black bees further than I had hitherto done, I bought them and transferred as soon as the weather would permit. There was honey enough to last them until fruit blossom and no longer. Several of my Italians were in the same condition. When fruit blossom came these same Italians went to work with a will, stored up plenty and some to spare, while the black bees had to be fed almost as regularly as man. Now that white clover is giving way to basswood, the Italians have done remarkably well, while the blacks have collected hardly enough "to keep soul and body together." If they do no better in the future than they have in the past, I doubt very much whether they will have enough to winter on, saying nothing about leaving me out in the cold.

I also find that the Italians are at work some two hours earlier in the morning, and while all is quiet about the hives of blacks in the evening, there is a busy hum of industry about those of the Italians. The blacks are more ready to tackle man or beast than the Italians. I can go on any warm day among the Italians and work until night without the aid of smoke, but the blacks partake, to some extent, of the "dog in the manger." Smoke takes a very prominent part in their manipulation.

Early in the spring when there were no

flowers, I found the blacks lurking about the weaker swarms, and in some instances I had to stand about over the hive to keep them off and save my colony. While extracting honey last week the bees became so thick and troublesome as to drive me into the house with my work. They had gathered around the place in which I kept the cappings; so I took particular pains to notice whether there were any Italians among them. To my great surprise not a solitary Italian was to be seen, every one of them were blacks.

Disgusted! I went to every hive that contained black bees and decapitated every queen, then inserted Italian queen cells, and now live in hopes of better times in the future. I have often heard of "being sick of a bargain," now I know exactly what it means, for I am sick of this one of black bees.

FISK BANGS.

North Lansing, Mich., July 11, 1878.

Adulteration of Sweets.

FRIEND NEWMAN:—Inclosed please find a copy of the petition to Congress which we would like to have you publish. You cannot insist too much on the necessity for every bee-keeper to procure a copy of the petition by sending a 1 or 2 cent stamp to cover postage, and to have it signed and returned. Such small expenses and work will be repaid over a thousand times if we can draw the adulterated sweets out of the market.

CHAS. DADANT & SON.

PETITION TO CONGRESS.

To the Honorable Senate and House of Representatives of the United States:

Your petitioners respectfully represent to your honorable body:—

1. That the sweets now in use in the United States, including cane-sugar, maple-sugar, syrups, candies, jellies, honey, etc., are often adulterated with glucose, and sometimes are manufactured entirely of it.

2. That this glucose is manufactured from corn starch, by boiling the starch with sulphuric acid, (oil of vitriol), then mixing with lime. The glucose always retains more or less of sulphuric acid and lime, and sometimes it has copperas, sucrate of lime, etc.

3. That 17 specimens of common table syrups were recently examined by R. C. Kedzie, A. M., Professor of Chemistry in the Michigan State Agricultural College at Lansing. Fifteen of these proved to be made of glucose; one of the 15 contained 141 grains of sulphuric acid, (oil of vitriol), and 724 grains of lime to the gallon; and another, which had caused serious sickness in a whole family, contained 72 grains of sulphuric acid, 28 grains of sulphate of iron, (copperas), and 363 grains of lime to the gallon.


4. That the American people are pre-eminently a sugar-eating people. The consumption of sugar, by each individual in our country, is shown by statistics to be

about 40 lbs. a year. It is seen at once that the adulterators of sugars and other sweets, not only cheat our people in the quality of what they consume, since glucose contains only from 30 to 40 per cent. of sugar, but injure also the public health, by selling under false names, an article injurious to health.

5. It is as much the right and duty of Congress to enact laws against such frauds in food as it is to enact laws against frauds in money, for if the counterfeiters of money injure the public wealth, the counterfeiters of food injure the public health.

In view of the above facts, your petitioners earnestly request your honorable body to decree that the adulteration of sweets, and the sale of such adulterated products, are crimes against the people, and to enact laws for the suppression of this illegal business.

And your petitioners will ever pray.

 The Protective Association Against the Adulteration of Sweets, will mail copies of this Petition free to all applicants, upon the receipt of stamp. The Petition should be posted up in a conspicuous place in the Post-Office, and when filled, should be returned either to the President, CHARLES DADANT, Hamilton, Hancock County, Ill., or to the Secretary, O. CLUTE, Keokuk, Iowa.

For the American Bee Journal. Dadant Against Himself.

"He that is first in his own cause seemeth just, but his neighbor cometh and searcheth him."

When I wrote before, I had no idea I should convince Mr. Dadant that there were hybrid bees in Italy; neither did I expect he would consent to arbitrate the matter. In the May issue of the JOURNAL he endeavors to reconcile his past with his present belief. Now let us see what influence was brought to bear to induce him to change his mind upon the subject.

When he went to Italy he believed there were hybrid bees there. Sartori confirmed him in this by informing him that Lombardy was the home of the Italian bee, and no where in Italy were the bees as pure as at Milan. Mr. Dadant corroborates this in one of his letters from Italy by saying, "Lombardy is so far the country where I saw the nicest and mildest bees." Here he used his own judgment and eyesight, as he did before he arrived at Milan, or had any conversation with Sartori, for he says in a previous letter:

"I could have bought some queens at Bellinzona, but neither the bees nor the queens pleased me. One of the queens that was shown to me was so dark that she seemed to be exactly similar to a black queen."

This course he pursued all the time he was in Italy, picking and purchasing only those he thought were pure, for in another letter he says: "I saw the bees of Varese; they are no better than those of Mona or Bellinzona. The keeper of the royal palace



who was born and raised in Turin, says that the bees of Piedmont are blacker and crosser than those of Milan. Count Castalani, who is from the vicinity of Naples, told me also that the bees of Milan were more yellow than of the southern part of the peninsula." This additional testimony, with his own, is, I think, sufficient to prove that Sartori was right.

The first reason he gives for changing his mind was he found out that Sartori was only a queen dealer and bought queens from all over Italy. I cannot accept this as a reason why he broke friendship with a man whom he esteemed "very conscientious." What! did he not know that he was a queen dealer and bought queens all over the country? Let Mr. Dadant answer.

"I stay at Sartori's and take care of his bees while he is traveling to buy queens." Again, "Sartori has been out in the country during the beginning of this week hunting for queens for me."

The next reason he gives was because, "Where Sartori had told me that there were impure bees from these I received good queens." Well, what of that? Suppose I told Mr. Dadant that the bees in Ohio were purer and nicer, as a whole, than those in Illinois, would it be detrimental either to my judgment or veracity if he found a few good queens in Illinois? And would that justify him to say that all the bees in Illinois were pure? And would it be reason enough for him to cut my acquaintance and publish me through the JOURNAL? I am credibly informed that the cause of estrangement was business difficulties for the last lot of 50 queens that Mr. Dadant sent for, Sartori would not supply.

Mr. Dadant endeavors to break down the testimony I gave to prove that there were hybrid bees in Italy by saying that Nice is outside of Italy. Yes, it was ceded to France in 1860, and it was in 1855 that F. A. Deus and his three companions made a tour through the country and found black bees at Nice, then in Italy.

Again, he says, "My contradictor has now to rely on Varro, Columella, Virgil and Spinola, all writers of another era, to prove his assertion that the Italian bees are a hybrid race."

Well, if a man does not believe in *truths* and *facts* because they have been handed down to us for thousands of years, I would not give him much credit for intelligence.

I never made the assertion that the Italian bees are a hybrid race! I never thought so; and had he paid any attention to the subject, he never would have said so. It is very unfortunate for Mr. Dadant that he cannot quote correctly. Whether this is intentional, or a careless habit, I know not. I hope he will take in good part, this gentle hint.

With regard to the Italian bee, to my mind, Mr. Dadant misapprehends the whole subject. What is an Italian bee? Mr. Vogel, who, the late Samuel Wagner says, was an experienced and accomplished beekeeper and breeder, of the Province of Brandenburg, in Prussia, who has probably had more diversified, practical and experimental knowledge of it than any other apiarist, came to the conclusion, from his

numerous experiments, that the Italian bee is a cross between the black and the Egyptian bee.

Now cross the Italian with the black, and very soon we find queens as dark as the black. I have had queens blacker. Crossing on the black line seems to intensify the color. This is the reason why "the bees in Tyrol are black, and as cross as hybrids."

I have elsewhere stated my belief that the Italian bee was not a very well fixed variety, having, as florists would say, a great tendency "to sport." Pure Italian queens are very rare that duplicate themselves for any length of time; hence the great diversity, not only in color, but in characteristics.

This, in my way of thinking, is the whole subject in a nutshell, solving the problem why pure Italians, at times, are seemingly impure; but once crossed with the black and it will show itself for many generations. I will close this subject by saying that Mr. Dadant, in my humble judgment, has signally failed in his endeavors to break down the testimony I have given in support of my belief that there are hybrid bees in Italy.

Mr. Dadant says, (vol. 8, p. 223,) "I intend to preserve, for Mrs. E. S. Tupper and myself, all the dark queens; for we both very well know that the light-colored queens are less prolific and less vigorous than the dark."

Again he says, (vol. 14, p. 200,) "We see no difference as to *prilfulness* in dark or light-colored queens." GEO. THOMPSON.

Geneva, Ill.

Swarming.

W. H. Lloyd, of Wilcox Co., Ala., gives the following as his method:

Early in Feb. he examines all his colonies, giving honey where necessary, and uniting weak or queenless colonies, if any such are found, that he may have all his colonies strong and ready to take advantage of the first opening flowers.

By the middle of March, the bees are growing quite numerous, and beginning to store a little honey, so that he finds it necessary to open the entire entrances; and as honey is his object, he sees that they have plenty of surplus room for storing, in order to keep down swarming as much as possible. But despite all his efforts, he says there will be some swarming; so that by the first of April, he is not surprised on any pleasant day to receive a message to the effect that "the bees are swarming."

In response to this message he at once repairs to the apiary and gets ready for the hiving. If they seem to be irritable, he gives the cluster a thorough sprinkling with water, sweetened with sugar or honey, waits a few minutes until they have sucked themselves full, and then finds all quiet and docile. After seeing that the hive for their reception is clean, cool and dry, he next goes to the colony from which they issued (or another will do) and selects a frame with a nice, straight comb, containing honey and uncapped brood. This he

takes out, brushing back the adhering bees, and replaces it with an empty one. This frame he puts in the centre of the empty hive, covers over the tops of the frames with cloth, to confine the bees to the brood chamber, and proceeds to hive the swarm. He never damages his fruit trees by cutting off limbs, nor does he cut limbs elsewhere unless the cluster is so high as to be out of reach; but with a tin dipper or pan he dips the bees off and pours them down at the entrance, when they go in with a rush. After dipping off all he can, a little jar to dislodge the balance finishes the job. A few minutes waiting for them to get quiet and then he carries the hive to the location selected for it. All this can be done very quickly by a little experience. The frame of honey and brood will prevent the bees deserting their hive, and will secure them against want in case of bad weather. With this straight comb he also secures combs built parallel, and straight combs are of great importance in manipulating the hive.

For the American Bee Journal.
California Items.

EDITOR JOURNAL:—Bee men here must use the *AMERICAN BEE JOURNAL* for an interchange of their views. It is as much for the interest of the apiarist to have a special medium devoted to their wants as any of the trades or professions.

THE HONEY CROP.

Southern California bee men are now in the midst of their honey harvest; or, perhaps, on the last half. And a pretty correct opinion can be formed of the comparative amount of honey that will be made. As much honey will be made this year as in any former year, in proportion to the amount of bees started in with; but, the great loss of bees last year will bring the actual amount of honey put upon the market far below what it was 2 years ago.

The season has been a month later than an average one, and will continue much longer, especially along the coast. The bee feed here is almost continuous from March until October, and of the very best kind.—Some of our honey-producing plants bloom twice. The mahogany is now in bloom, to some extent, for the second time, and also the barberry. I think it makes very fine honey, but not so white as the sage.

QUEEN LAYING IN BOXES.

It is said by our bee men that there has been an unusual tendency for the bees to swarm this year, and that there has been much trouble experienced with the queens occupying the surplus boxes. I have heard it suggested that it is in consequence of its being unusually cool; the queen choosing the top box because it is warmer. I would like to hear the opinion of some experienced bee men, through the *AMERICAN BEE JOURNAL*, as to the effect of the honey or division-board between the two boxes, upon the queens using the top box for a brood chamber.

EXTRACTED HONEY.

Much has been written as to the relative merits of comb and extracted honey. It is my opinion that the lovers of comb honey will adhere to their preference for comb honey just so long as extracted honey is put upon the market, slung out of uncapped combs and not evaporated. I was a little surprised, that so good authority as Prof. Cook should recommend bee men to extract their honey before it was capped, and giving no mode of ripening or bringing it to the same state as capped honey; and as an inducement for them to do so, said that the men at the College liked it about as well as capped honey. All I can say is, there is no accounting for people's tastes!

I will admit that it is for the interest of honey-producers to extract their honey before it is capped, for it takes my bees longer to evaporate and cap their honey than it does to store it; and during this time, they are comparatively idle. If I had no means of reducing my honey to the consistency of capped honey, I would prefer to let my bees do it, and take my chances in the market with inferior honey, than to flood it with slops, and then grumble because people would prefer comb honey to extracted.

I have so arranged my Sun Evaporator, (that some have pronounced a failure), that I can, without expense, evaporate all the water from my honey, or as much of it as is necessary. My evaporator is 5x10 ft., and 10 inches deep, covered with sky-light windows, set on an angle of one foot in three; this will take the water off on the under side of the glass, and by springing the glass apart a little at the top, the water will run out on top of the next glass below.

I have made a simple extractor for extracting the drone brood. I uncap it the same as honey, and then throw it out. It makes good chicken feed—not foul brood, but brood for fowls.

COMB FOUNDATION.

I must add one more testimony in favor of comb foundation. We purchased a machine, and after experimenting and making other appliances that should accompany a machine, we succeeded in making good foundation. I think the makers of the machine are not explicit enough in their instructions for the use of it. Perhaps they think to detail fully what is required to manipulate it might deter some from buying.

BINGHAM'S SMOKER.

I sent for one of Bingham's Standard Smokers, and I was so disappointed in its real worth that I immediately ordered a dozen for my neighbors. Every bee man that sees it says get me one, so I have concluded to take the agency for them and keep them on hand.

RETURNING A SWARM.

The 1st of June we had a vere large swarm of bees come out; put them in a box; they immediately went to work making comb and the queen to laying eggs. The third day all came out and went on to a bush. We put them back and they have done re-



markably well ever since. Rather an unusual occurrence, is it not?

THE BEE JOURNAL.

The July number of the JOURNAL has just come and is replete with many instructive articles. It of itself is worth to a bee man a year's subscription.

THE HONEY CROP.

I notice that our friend Levering thinks that the idea that a very large honey crop would be taken in Southern California was started by those wishing to run the market down for a speculative purpose. I think it is not so much that, as that the thoughtless bee men, some of whom are anxious to be known as great honey producers, exaggerate the amount they have taken out. There is no danger but that good honey will bring a fair price. That honey is falling there can be no doubt, for one of our bee men here last night had the platform under a 4,000 pound tank give way, bursting the tank and making a very sweet mess. The ants and other honey-loving insects will think they have found a bonanza.

HOW TO STRAIN EXTRACTED HONEY.

I notice an inquiry in the JOURNAL by W. C. Nutt as to how to strain extracted honey. I will describe my process: First, my honey house is two stories high, the upper floor being but a little above the level of the apiary ground. I do my extracting on the upper floor. I made two square hoppers to fit into a tin can that is about 10x10 and 14 inches deep. One I place upon brackets soldered on half way down; the other on top. These hoppers are 5 inches deep and made of perforated tin. This can I place on the floor to receive the honey from the extractor. A pipe leads from the can out doors into my evaporator. Another pipe takes the honey from the evaporator into the reservoir in the lower room. These hoppers you can call separators if it sounds any better than strainers.

LARGE VS. SMALL FRAMES.

I hope William H. Ware's article on the Langstroth hive will bring out the evidence pro and con upon the relative merits of the large and small frames. It is a question I have been going to ask of the old experienced bee-keepers. Perhaps what would be best for a cold climate would not be best for a climate where there is no cold weather to contend with.

M. S. BAKER.

Santa Monica, Cal., July 10, 1878.

For the American Bee Journal. Cyprian Bees.

I have a brother who raised some seedling potatoes sometime within 4 years. He succeeded in getting several varieties. One kind was early, prolific and of an excellent quality. He tried to sell out the lot to a well-known Essex county seedsman. The only fault the seedsman found with them was their close resemblance to the Early Rose potatoes, and so no sale was made.—He said that it would require a great

amount of talking to make his customers believe that they were not the Early Rose potatoes.

Now, the Cyprian bees may, and may not be a distinct race of bees, but it will require a great amount of talking to convince bee-keepers that they are not Italian bees. I have had the Italian not far from 18 years, and when I saw the Cyprian bees, I could not tell them from the Italians, and I would like to see the man who could.

I have a friend who is now in Europe, and I am looking for 2 Cyprian queens from him by every steamer. Hope to get them so that I can have queens before September.

The Cyprian queen that I saw did not look like a pure Italian queen, as she was not yellow by any means. One little, narrow strip, back of the wings, was all the yellow color I saw about her. The worker bees were very beautiful Italians.

I write the above in reply to about 50 correspondents. The above is all I know about Cyprian bees, and I would like to see the man who knows more.

Wenham, Mass.

H. ALLEY.

For the American Bee Journal.

Italians Reproducing Themselves.

It is a well-known fact that pure stock of any kind reproduces itself if increased. Black bees were pure black bees from the beginning, the queens reproducing themselves, males and all, alike. The Italians (as we have learned them) are a distinct variety, having three yellow bands. The queen, if pure, will duplicate herself, with drones and bees all alike. All we have to establish is the color, and my choice of color would be, *let the yellow be the color of gold*. Some recommend Italianizing for the purpose of infusing new blood, and I thought maybe I had overlooked a very important matter, so with my Abbott microscope and glasses on, caught a pretty Italian neuter, and to my shame went to dissecting, with head amputated and heart carved out, "nary drop" of blood was to be found; but I did find a tiny drop of that sweet nectar that helps to gladden the heart of man. A honey-eating people are a happy people. I recommend Italians for their superior beauty, their amiable disposition, their vigilance against moth, their industry in time of drouth; and last, but not least, they mind their own business. ALVAH REYNOLDS.

Oneida, Ill., July 15, 1878.

For the American Bee Journal.

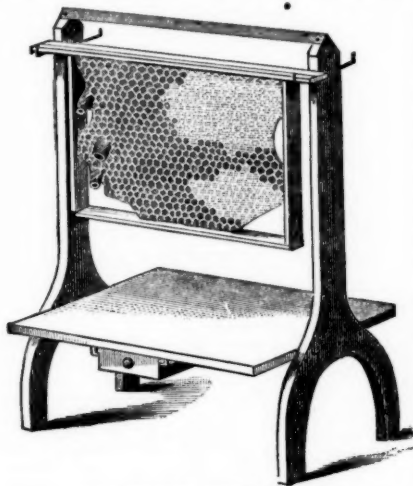
Valentine's Queen Stand.

FRIEND NEWMAN:—I send you a rough drawing of a little piece of furniture I find very useful in the bee-yard. It is what I call a queen stand. The drawing will give you an idea of what it is. Something of the kind is almost indispensable. Other bee-keepers may be using something like it, or perhaps something better; but if not, they should try one. Almost any person can make it.

In examining a hive, unless there is some-

thing on which to hang the first frame removed, it must be set on the ground and leaned against the hive, and you are almost sure to mash more or less bees. In taking out queens, inserting queen cells, etc., it is just the thing.

The uprights are $1\frac{1}{2} \times \frac{3}{4}$, 24 inches high; a piece 1 inch square across the top for a handle to lift it by and to hold the top together. Two inches below the top bar are hooks on both sides, so as to hang on two frames if desirable. Four inches below the bottom of the frames (when suspended on the hooks), is a shelf 12 inches wide, to which the uprights are nailed. This makes a nice place on which to lay cages, etc. Under this shelf is a drawer 6x8, that draws out on either side, in which I keep a dozen queen cages, a sharp-pointed knife, and a small crooked-point pair of scissors. The stand is well painted, and a groove cut around the under side of the shelf, so that



VALENTINE'S QUEEN STAND.

water cannot get into the drawer. I always have it in the bee-yard, so that any time I may wish to examine a hive, or anything of the kind, it is near at hand.

Last year I used a couple of hooks held together by an iron rod, and hung on the edge of the hive, to hold frames, but it did not work so well. I had no place to keep cages and tools; could not examine both sides of the comb without lifting it off.

Carlinville, Ill. J. M. VALENTINE.

From Los Angeles Star.

Returning Queens.

As a general rule, when a queen is introduced into a new colony and accepted by her new subjects, she moves on the even tenor of her way. A new departure from this general rule recently came under our observation, when we removed a fine hybrid queen, introducing in her stead an Italian. Not wishing to decapitate her

hybrid majesty, we removed her to a queenless colony, some 40 rods distant. Two weeks from that day we examined the colony in which she had been placed, but she was nowhere to be found. She had left slight evidence that the place that once knew her, knew her no more. We then proceeded to examine the colony in which we had placed the Italian, when we were informed by the apiarist that he had removed her from the cage, dead, the following morning after her introduction. We proceeded, however, with our examination, to ascertain the condition of things; when, to our surprise, we found her hybrid majesty making her wonted rounds, and that the place that once knew her, now knew her again.

A brother apiarist informs us of a similar case in his apiary last spring. He had procured a good Italian queen, introducing her into a black colony, from which he had removed the black queen into another colony, in a distant part of the apiary, having examined his Italian queen frequently after her liberation, and in the full enjoyment of her rights. She remained in her new dominion only for a brief period, as the sequel will show, for in a few days after, on trying to find her Italian highness, he was not a little surprised to find her supplanted by the former black majesty. In order that he might not be mistaken, he examined the colony to which he removed the black queen, and found her missing.—He was able to identify her, so that there was no mistake about it.

These queens, no doubt, felt that they had been "unjustly counted out," and, without waiting for an investigation, resumed the reins of government in their former hives.

N. LEVERING.

For the American Bee Journal.

County Bee Association.

Every county, where any considerable number of bees are kept, should have an organization of those engaged in this pursuit, whereby an exchange of ideas may be effected, that new improvements may be brought out and discussed, and failures, if any, talked over, the cause ascertained and its remedy suggested, if possible, that they be not repeated.

So far as I am aware, nothing of the kind has been attempted in this part of Ohio; but, that there is need enough of it, I think is fully shown in the following description of the apiary of a prominent and wealthy farmer which I have recently visited.

A friend who is just becoming initiated into the mysteries of bee-keeping, and, perhaps, growing somewhat enthusiastic on the subject, being desirous of increasing his stock, by purchase, invited the writer to accompany him in visiting a farmer, who had signified his willingness to sell a few colonies.

A pleasant ride of 3 or 4 miles, after a busy day in the apiary, brought us to a well-kept farm and pleasant farm house, with fine out-buildings. All the surroundings indicated the careful and thrifty farmer.

My friend had informed me before setting out on the visit that there were 11 colonies, 5 of which were in one hive,—something, you may be certain, I was anxious to see. On reaching our destination, we found the owner busy, for the time being, but having been directed where to find the bees, we soon found what we took at first to be a pile of dry goods boxes, but which proved, on close inspection, to be the “apiary.” I wish I could describe it. I can’t, and do it justice.

The first hive inspected, we were told, had contained bees for 15 years. I do not doubt it. It was, probably, some patent arrangement, with glass back and door.—The door was now held in place by a piece of rail or fence stake, and the whole affair was so worm-eaten that it would hardly hold together.

We next examined an old box hive, which was being run for honey, having 2 old six-pound boxes on top, for surplus.

But, our curiosity was increasing. The next hive, said to contain 2 colonies, was a large, pine box, more than 3 feet square.—An examination of its interior arrangements showed that it contained one of the aforesaid box hives. It was explained that one colony was in the hive, and the other occupied the space outside the hive in the box; but, as there appeared to be not over a handful of bees outside the hive, the man said they must have all gone in together.—We thought so too. Another box, nearly as large as the first, said to contain 2 colonies, was passed, and we reached the one having 5. We first made an extended tour of the exterior, in search of the 5 entrances. We found them. On one side, 2 holes, an inch long and one-half an inch apart; on the opposite side, 3 holes, an inch apart, made with a small bit; all 5 opening into one and the same compartment, viz: that great box. Inside, in one corner, was a small box, which served as a brood nest; while outside and above it, the colony was storing its surplus honey.

What kind of bee-keeping is that? How many such bee-keepers there are all over the country. Perhaps they have not all made as much advance as this one who considered the large boxes with several colonies a great improvement. They look upon bee papers and magazines as many do upon honey—a luxury which they can do without.

I returned home well repaid for my journey, in the increased satisfaction felt as I looked upon the results of my own feeble efforts, but with a determination to do what I could to awaken an interest, which would forever do away with such bee-keeping as that I had seen.

WARREN PEIRCE.
Garrettsville, Ohio, July 19, 1878.

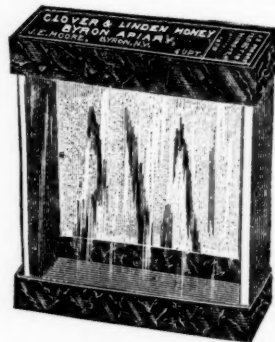
For the American Bee Journal.

The Perfection Honey Box.

I have handled bees more or less for 15 years, and made my first section boxes in 1871; but not having many bees, did not give the matter of boxes much attention. I shipped my bees here from Rochester,

Pennsylvania, in July and August, 1875, and have been steadily increasing our apiary until at present we number 117 colonies, besides a number of nuclei. From the amount of time and labor required to glass up our honey in section boxes, I soon found that with many colonies I must have some more expeditious way of glassing, and better adapted to make a complete section honey box, hence my *Perfection Honey Box*, of which the above illustration gives a perspective view.

The box consists, in the combination with the comb frame or section and separ-



ate glasses, applied loosely upon the opposite faces of said frame or section, of caps at each end, which embrace the frame or section and glasses, and hold the whole in compact form. The caps are made of box pasteboard, the rim of which can be made of any desired color, although I confine myself to colors not easily fly specked.—They are made of a size to enclose one or more sections, according to size of box required, also to accommodate any size of section in use.

Some of the advantages of this box are:—The rapidity with which the honey can be glassed and prepared for market. Easy crating and safe transportation is secured. It is the most attractive style of honey box in the market.


We sold our honey last season, put up in these boxes, to Thurber & Co., New York, who spoke highly of the package.

DIRECTIONS FOR USING.

Place cap without label on bench, into which set the section or sections, as case may be; slip a glass down in place on side next operator, then grasp lower corners with both hands, pressing thumbs against rim of cap on side glass has been placed, and forefingers on opposite side of section, pressing well together; this gives room to slip glass down on other side, after which adjust cap having label on top of box.

J. E. MOORE.

Byron, Genesee Co., N. Y.

 In 1870 there were 70,000 bee-keepers in the United States. This year the number is estimated at 150,000, averaging 15 colonies each.

The Home of the Cyprian Bee.

In answer to many questions about the Island of Cyprus, we subjoin a condensed description of it, together with the outline of its history. As the Cyprians are now supposed by many to be "the Coming Bee," the following will be interesting to them:

Cyprus is the third largest island in the Mediterranean sea, and considerably exceeds in area both Corsica and Crete. It lies in the north-eastern basin of the Mediterranean, and is about equally distant from the Syrian and Asia Minor coasts. Its greatest length is 145 miles and greatest width 60. The width suddenly narrows in longitude 34°, from whence extends north-easterly a long narrow tongue of land for over 45 miles. A large part of the island is occupied by two mountain ranges, extending in a general direction from east to west. Between the two ranges is a broad plain, known as the Messaria, watered by two streams, but open and uncultivated. Corn is grown in some portions of the plain, and it is believed that the whole of it might be cultivated.

The renown of Cyprus extends through all ancient and modern history, the earliest things known of it dating from the Phœnicians, who inhabited the neighboring mainland and colonized the island. In historical times Greek colonies were found existing side by side with the Phœnicians, but whether they were there before or after them is unknown. Popular legend ascribe the Greek colonies to the heroic period of history, the town of Salamis having been, it was said, founded by Teucer, the brother of Ajax. The Phœnicians introduced the worship of the goddess Ashtaroth, known to the Greeks as Astarte, and identified by them with their own Aphrodite, or the Roman Venus. It is probable that the Greeks gradually obtained political supremacy, though their companions exercised an important influence on the manners, arts, and religious rites of the inhabitants. The first recorded fact in the history of this island is in Herodotus, who relates that it was conquered in the sixth century B. C. by King Amasis, of Egypt. During the invasion of Egypt by Cambyzes (525 B. C.) it revolted and declared in favor of the Persians, becoming thereafter a tributary province of that empire. In the wars of Xerxes with Greece it furnished no less than 150 ships to the Persian fleet and was frequently the scene of hostilities. Its cities enjoyed a local self-government, being ruled over by petty kings, of whom there were nine on the island.

After the death of Alexander the Great the possession of Cyprus was sought for by several of his successors, and it finally passed into the hands of Ptolemy, king of Egypt. In 306 B. C. Demetrius, son of Antigonus, made an effort to recover it. He had reduced the whole of it, when Ptolemy arrived with a fleet and laid siege to the capital city of Salamis. This led to one of the most memorable naval fights in ancient his-

tory. Ptolemy being utterly defeated. This battle the reader will not, of course, confound with that great fight of Themistocles' at the island of Salamis, on the coast of Greece, near Athens, which took place nearly two hundred years earlier. Until it fell into the possession of the Romans, in 58 B. C., Cyprus had varied fortunes; but for the most part of that time it remained in the possession of the Greek rulers of Egypt. Christianity was introduced by St. Paul, and flourished until thirteen bishoprics had been established on the island. In 117 A. D. the Jews had settled there in large numbers and rose in revolt against the Roman rule, destroying, it is said, 240,000 of the inhabitants. With the division of the Roman empire, Cyprus passed into the possession of the eastern emperors, whose subject it was for more than seven centuries. During that period it was twice conquered by the Arabs, once under the reign of Haroun al Raschid, but it was recovered again each time by the Byzantine emperors.

In 1184 a nephew of the reigning sovereign at Constantinople obtained it as an independent territory, but eleven years afterward it was taken from him by Richard the Lionhearted, who gave it to Guy de Lusignan, the titular king of Jerusalem, to compensate him in a measure for the loss of the holy city. This dynasty governed Cyprus for nearly three centuries, and introduced the feudal system and other institutions of the west. Near the close of this period the Genoese became masters along the seaport towns, retaining it for a considerable period, but they were finally driven out, and the whole territory was united again under King James II. The king contracted a marriage with the famous Venetian lady, Catherine Cornaro, in order to secure the support of the republic of Venice, then in the plenitude of its power. But in a few years the king died, leaving Catherine as regent. Harassed with jealousies, and feeling unable alone to contend with the growing power of the Turks, she abdicated in favor of Venice, and the island passed at once into the full possession of the republic. This was in 1487.

The Venetians thereafter maintained supremacy eighty years, in spite of the neighboring and warlike Turks. The story of "Othello, the Moor," dates from this period. In 1570 an army of 68,000 Turks landed on the island, but it was not until after a year's siege that the last town was captured. Of the inhabitants of the capital, 20,000 were massacred, and the governor, Bragadino, was tortured to death. Since that date the island has continued in the possession of the Turks, paying heavy tribute to the sultan, and making a history of which little can be said. Two insurrections have broken out, but both were suppressed, one of them being followed by a general massacre of the participants. During the Turkish rule the prosperity of Cyprus steadily declined. Of late years an increasing commerce between western Europe and the Levant has revived her trade in a measure, but it is a long distance yet from being what it is believed Cyprus might become—one of the richest islands in the Mediterranean.



Our Letter Box.

Noblesville, Ind., July 3, 1878.

"The queen which I spoke of last month, as not laying, was barren. She was superseded by a fertile worker, which I have got rid of, by the help of the JOURNAL.—I find it an excellent companion and adviser."
L. M. WAINWRIGHT.

Cedar Vale, Kan., June 24, 1878.

"I never saw bees do better in any locality. I brought 8 colonies last fall from Henry Co., Ohio, on a freight car, with the rest of my goods; and with all the banging in making up trains at the various stations, they came all safely to Independence, Kansas; from there, I moved them 60 miles by wagon over a very rough road, with the loss of only 4 combs broken down and about one pint of bees. I now have 16 very strong colonies, with combs very full of honey."
D. BARTGIS.

Roseville, Ill., July 1st, 1878.

"We never had such a swarming time with bees before, as we have had the past week; some colonies would swarm, time after time, and we could see no reason for it. We are getting a good deal of nice, white clover honey in small sections. We like tin separators ever so much; they cause the bees to finish each comb more quickly, and can be taken out of the hive sooner than if built without separators; consequently, the honey is very white, and straightly built in the frames. We are using a rack to hold the frames so that all can be lifted out of the hive at once, which is very handy in swarming time."
MRS. L. C. AXTELL.

Camden Point, Mo. July 1st, 1878.

DEAR EDITOR.—"In bee-culture and honey-producing business I am a novice, but have learned enough to assure me that three-fourths of the learned essays and long winded paper theories are but to catch such bugs as I. One year of experience, with a sprinkle of your common sense advice is worth half the *science* extant on the subject to-day. As for patent hives, I have 9 different kinds. If I were starting anew, I would only use two kinds, the Langstroth and A. G. Hill's winter hive. Hill, in my opinion, has made a hit. I like the arrangement for wintering so well. Langstroth is a very cold hive, and great care is necessary to winter safely in this cold, 6 month's winter climate. I have 55 colonies of mixed bees. Some almost pure Italians. I have extracted as much as 90 lbs. from one hive, already. Honey dew has been very heavy this spring; indeed, it never was known to be so great in this part. I have scraped large drops from the leaves of the trees, at 3 o'clock, p. m. And as an evidence of the abundance of honey in the fields, I deliberately placed a large comb of honey on a fence post, in the middle of my apiary, and not a bee touched it for 5 hours. Such a gathering of honey, increase of bees, and a longing after a colony or two, by your neighbors, has never been seen in

this country. One fellow (a granger), near here, wanted a start so badly, that he stole an old log gum, full of bees and honey, from the Hon. Jas. Anderson, and carried it a mile; but, poor fellow, he had large tacks in his boot heels, and this betrayed him and he paid rather dear for his cupidity. The Prize Boxes for surplus honey is the trick, (two sides glass;) and such beautiful white honey as I have in over 200 of them would make the Thurber Bros. smile to see it."
TOM M. MOORE.

Berkshire, N. Y., June 14, 1878.

Nearly all advertisers of Italian bees claim that they are larger than the blacks, and, of course, can *smell deeper* and *sting louder* than any other bee. If the Italians are larger, it follows that the cells in the brood comb must be correspondingly larger, in order to get the advantages claimed for them. Now, what I want to know is:

1. Does "Italianizing" by simply introducing an Italian queen into a hive of black bees, get those *large* bees with the *long proboscis*? For my part, I don't see how Italians, reared in this way, can be any better than the blacks, since they are reared in the very same cells as the blacks were. I don't believe you can raise a Brahma chicken in the shell of a Bantam! In my way of thinking, the only way to get *pure* Italians, with *all* their advantages over the blacks, is to import whole colonies, and breed from them alone.

2. What is the proper distance between frames, and width of frame?

3. Will plain sheets of wax answer for guides in section boxes?

WM. C. LEONARD.

[1. Certainly, if large bees are wanted, they must be produced in large cells. Those produced in *new* comb are usually much larger than those from old comb. Give a colony a pure Italian queen and some comb foundation, and you will get nice large bees.

2. The proper distance between frames is a little less than $1\frac{1}{2}$ inches—from centre to centre—about 1 7-16 of an inch; about 1 inch being sufficient for the frame.

3. Plain sheets of wax will answer for comb guides very well, but comb foundation is better.—ED.]

Napoleon, Ohio, July 6, 1878.

"The imported queen reached me safely, on the evening of the 3d inst., and is developing into a fine looking queen, and apparently a young one. She is laying, to-day, and I am very much pleased with her, so far. Bees are laying up large stores of the best quality of honey from white clover, and swarming but moderately. Basswood is not yet doing much."
D. KEPLER.

Hamilton, Ill., July 3, 1878.

EDITOR JOURNAL:—"Please inform your readers that the Carniolan bees have been tried by us. We have received 3 Carniolan queens alive, on an order of 5. We found them in no way superior to the blacks."
CH. DADANT & SON.

Council Grove, Kansas, July 7, 1878.

DEAR EDITOR:—I send you the stalk (in sections), leaves and flowers of a weed or plant growing thickly on a neglected field, of which the bees are very fond. They almost entirely neglect the buckwheat in bloom near by and go one-half a mile for this weed. I was wondering what they found to suit them better than the buckwheat, when I chanced to pass through this field, and the mystery was solved. I saw bees by the thousand extracting honey from the flowers of this weed. Can you tell what it is?

D. P. NORTON.

[The plant is *Teucrium Canadensis*, American germander, or wood sage. Prof. Beal tells me that it is common even in this latitude. It is a mint, and thus a relative of motherwort and catnip. These latter, especially motherwort, hold out great promise to the bee-keeper. Ours have been in blossom now for many days, and even after heavy rains, of which we have had many, it would be found swarming with bees, while the mignonette, white, sweet, and alsike clover would be deserted.—A. J. COOK.]

Lititz, Lancaster Co., Pa., July 6, 1878.

"The Bee Association, of Lancaster Co., Pa., will hold its next regular meeting in Lancaster City, on the second Monday in August. We shall meet at Centre Square, at 1 o'clock, p. m., where our friends who are interested in bee-culture will be cordially welcomed. Many matters of interest will be discussed, and the meeting will, no doubt, be profitable as well as interesting.

The wet season has been somewhat unfavorable, but bees generally are doing well. Among my own bees, I have at one place 18 natural swarms from 15 colonies of bees. Others are not doing so well, but taking all things into consideration, we can not complain." P. S. REIST, Pres't.

Wesley, Ind., July 5, 1878.

"Bees are doing well. I never saw such a crop of white clover as there is this summer, and bees are very rich in stores of honey. I had 8 colonies in the spring; now I have 24, 2 having gone to the woods.—They are all black bees, but I want to Italianize them all next summer from the queen you are to send me." S. QUICK.

Spafford, N. Y., July 14, 1878.

"I wintered my bees successfully last winter; a part on their summer stands, and the remainder in the cellar. All came out strong, with the exception of 2 that lost their queens. April was warm, with bees apparently ready to swarm. May was wet and cold, which put them back; they destroying most of their drones. But June and July has been warm, with white clover in abundance; and now basswood is opening and they are all the time at work when it is light enough for them to see. I had 30 colonies in the spring; have had over 40 swarms from them."

EDWIN S. EDWARDS

Davis, Mich., July 8, 1878.

"The imported queen was duly received in good order. I placed a wire cloth over the shipping box and put her into a hive about 5 hours; then I liberated her. She was accepted, and is now doing a good business. I am well pleased with her."

WM. P. EVRITT.

Geneva, Ill., July 15, 1878.

"When I had to feed my bees up to the middle of June, I felt a little discouraged; but, I tell you, they are now making up for lost time. I never saw them working as well as they do now. Success to the bees and the AMERICAN BEE JOURNAL."

GEO. THOMPSON.

Strawtown, Ind., July 15, 1878.

"Our imported queen stock have outstripped everything, far or near, in gathering honey. One colony has gathered 115 lbs. of comb honey; another gave 75 lbs. and one colony. Quite a number have gathered from 75 to 80 lbs. of comb honey.—It has been a splendid season for honey.—The 'crate' is a grand success."

JOHN ROOKER.

"It is said, if we take a queen away from a colony of bees they will rear another queen. Last Friday, I took a queen from a good half colony; she had been there and laying for three weeks. There were lots of young bees crawling on the comb, eggs and larvae in all stages, when I took the queen away. I thought I would let them raise a queen from her brood, for the bees looked so nice. The next Friday I looked to see how many cells I had. Imagine my surprise when I looked but could find no signs of any. The brood was nearly all hatched out. I thought it could not be possible that they had no queen. I put in a ripe cell, and the next day it had a queen.—The cell was uncapped as naturally as could be. Did you ever hear of the like?"

A NOVICE.

[We have never known of a queenless colony to refuse to start queen-cells, if given the opportunity. The only way we can explain the above would be to suggest that the observation was not thorough, and that a queen-cell had been overlooked.—ED.]

Grandville, O., July 18, 1878.

"Our bees are doing splendidly this season. Will get over two tons of honey in the 'Union Apiary.' The 'French Pavilion' gives us up to this time 1,500 lbs. of extracted honey; 'Carpenter's Hall,' over 1,000 lbs. of extracted honey, and 'Sugarloaf Apiary' has been run mostly to small sections; about 800 lbs. thus far. I think we will find a local market for all our honey at 10 to 15 cts."

W. H. SEDGWICK.

Light Street, Pa., June 20, 1878.

"Cook's Manual came to hand, and I am well pleased with it. It fills a want in bee literature that was imperative. Bees have had a very poor spring up to about a week ago, when it got warm, and now they have a plenty of white clover to work on. They



got nothing from apple and cherry blossoms, on account of wet and cold, and only enough from the raspberries to live on.—Hope from now on it will prove a good season.”
H. H. BROWN.

Wethersfield, Conn., July 12, 1878.
“The imported queen you sent me has arrived. I introduced her and she commenced laying immediately. I am much pleased with her, she being large, active and handsome. Apparently she is A No. 1. Bees have been doing first rate for the past 14 days, working early and late. Since warm weather commenced (June 27th), it warmed them up and they have been working with full force. The indications are now very encouraging for a good yield of honey this season.”
F. I. SAGE.

Smith's Grove, Ky., July 8, 1878.
“We depend mostly on natural pasturage for our bees, but have growing now about one acre of mellilot clover and a small patch of borage, and the bees are reveling in clover by thousands. It grows from 4 to 7 feet high, and has millions of small, white blossoms, rich with honey. It is biennial, not blooming the first season, and dies after it blooms the second season. It has no value except for honey. It blooms from the middle of June to the middle of July.—Borage blooms from July till frost. We raise turnips for early bloom for our bees, from which they gather honey and pollen, and sometimes sow buckwheat for late pasturage; but our crop of honey is gathered principally from the poplar and linn trees and from white clover.”

N. P. ALLEN & SON.

Columbus, Kansas, July 3, 1878.
“Please name enclosed plant. Bees work on it from morning until night. It appears to grow wild on the prairie, and affords a good deal of honey, but of poor quality.”
H. SCOVELL.

[This is the mountain mint, or *Pycnanthemum lanceolatum*. Another name for plants of this genus is basil. As will be seen, this is a mint, which leads me to say that our beds of motherwort and catnip are now in full bloom, and the flowers, especially of the former, seem to lose none of their attraction for the bees, even though the rains are frequent. The same is also true of the mustards, which are now crowded with bees. Brother Fisk Bangs has sown several acres of mustard, which will come into bloom about July 20th, so that he may test the quality of the honey, as also the policy of sowing this as a special plant. Our sweet clover and mignonette are now fragrant and noisy with bees.]
A. J. COOK.]

Waterloo, Pa., July 15, 1878.
The imported queen you sent me came to hand on the 8th inst., and is doing well. Bees in this locality are doing well—have stored more honey within the past 3 weeks

than I ever knew them to do in the same time before. White clover never was better, and perhaps never continued so long. I am rearing queens more extensively, and with greater care than ever before. I have the choicest of drones and superfine breeding mothers. I would not and could not do without the BEE JOURNAL for three times its price.
J. E. KEARNS.

Arkansaw, Wis., July 14, 1878.
DEAR EDITOR:—We have at present 103 colonies of bees in 4 different styles of frame hives, all doing well. Bees wintered well in this locality, coming out strong, but are not swarming any yet. Two apiaries close by us, of 23 colonies each, have not had a single swarm yet. What is the cause? Have made but little honey as yet, but seem to be doing well. We purchased 26 colonies of bees this spring in different styles of hives; had a swarm from each which are doing well; have just finished transferring. I had them in six different styles of hives but prefer the Langstroth. I intend to use such altogether next year. I found the comb foundation a present help in time of need; I used 25 lbs. with good success. This is my experience with the foundation. I have doubled my stock by its use, while my neighbors in the bee business have just as many colonies as they had when working season commenced, and no more, and in no better shape than ours are now. We are young and have a good deal to learn yet in bee culture, but thanks to your valuable BEE JOURNAL, we are none behind our bee-keeping friends here in this section. I think by the aid of your JOURNAL, I shall understand the little busy workers pretty well by the time this season is over.”
JONES & STILLMAN.

Callaway Co., Mo., July 18, 1878.
“Our bees are in most excellent condition—strong in numbers and rich in stores. The early spring, and the abundant fruit bloom stimulated the rearing of an unusually large amount of brood, but the chilly weather in April and May caused them to draw on their old stores till many had to be fed, to prevent starvation. June brought the white clover with its abundance, and about June 20 the aphides made their appearance on the hickory leaves, since which we have had a copious ‘honey-dew.’ The insect is yet abundant, and doubtless the ‘dew’ will remain some time yet.”
GEO. HAMILTON, M. D.

Holyoke, Mass., July 18, 1878.
FRIEND NEWMAN:—“My bees dwindled in the spring, but they have rallied their forces and are now doing well. Others report favorable. The JOURNAL comes regularly, and I hail it with joy. It is the best and greatest light we have on bee culture, bringing ideas, not only from the editor, but from all the other experienced bee men of the land. I send you herewith a small specimen from a tree that grows in this valley; it is the only one that I know of in this region. It was brought here and set out by a rich gentleman, some 25 or 30 years ago, and is now a foot through at the butt, over 30 feet high, and of beautiful form.

LUTHER A. TABER.

DR. H. J. PETERS.

You need not fear trouble from any quarter for making the hive and using the division board recommended by Professor Cook.—Ed.]

HOW TO WINTER.—Those who wish to post up on the subject of wintering, will do well to read Prof. Cook's essay as read before the National Convention of 1876. — Price 15 cents.

Dowagiac, Mich., July 12, 1878. JAMES HEDDON.

TERMS OF SUBSCRIPTION.

Single subscription, one year.....	\$2 00
Two subscriptions, sent at the same time.....	3 50
Three " " " "	5 00
Four or more, " " " ..each,	1 50

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974 West Madison St. CHICAGO, ILL.

Our answer to all who ask credit is this: We sell on small margins, and cannot afford to take the risks of doing a credit business. If we did such a business we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-keepers, lawyers, and other people to protect our customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must take the following rule: **Cash with the order, for all** **Adrian** **Equities**



Bingham's Smoker Corner

Will contain a short card from some one every month. See Bellows Smoker card on another page.

It is just to say that no letters have ever been solicited which have been or are now put in this Corner, and that we have many more, from the most conspicuous parties, also unsolicited.

Thanking the public for their liberal patronage, which I have tried to merit,

I remain, very truly, T. F. BINGHAM.

P. S.—Parties wishing a very superior knife for uncapping, will see advertisement elsewhere.

Galesburg, Ill., July 13, 1878.

I received the smoker you sent. I am well pleased with it, and could not very well get along without it. I use corn-cobs for fuel, and find them superior to anything else tried. I was called on yesterday by two parties to transfer colonies that were in old box hives, and the consequence was the above orders for the Bingham smokers. As soon as men use them they see their usefulness, and, as a matter of course, must have them. H. BROWN.

Santa Monica, Cal., July 1, 1878.

J. F. BINGHAM—Dear Sir: On receipt of your letter and the smoker I wrote yesterday, but had not tried the smoker when I wrote. To-day I have been trying it, and I am so disappointed in it that I thought I would write you again. Well it is a perfect little giant, and fills the bill to perfection. My partner had not used it one hour before he said (in his enthusiasm over it), he would not do without it for five dollars a month, and three or four bee men have already seen it, and all want one as soon as I can get them. So you may send me one dozen—half standard and half large size. They are in so much of a hurry that I did think of telegraphing for them, but thought that would take off the profit. I think I can sell one to every bee man I show it to, but they must see it work before they will be satisfied, for there are so many humbugs, and it is so easy to get recommendations for anything. Yours truly,

M. S. BAKER.

CHIPS FROM SWEET HOME.—Mrs. P. says: "Palmer, here's your smoker." "All right," says I. Fifteen years ago I used rags, thought they were good; eight years ago I found rotten or dozy wood excellent, and to it we hung, thinking that we wanted nothing better, although I did nearly burn up 2 colonies; it was dangerous, for buildings as well as hives might be burned up; it smoked my eyes, making the water run at times freely. I used to make myself dizzy, till I learned how to blow. But rotten wood was good, I had used it for years. Last season I did think that I would get a smoker this spring, but seeing Lock using one, and it was used to such a poor advantage, that I concluded rotten wood was best. Two of my neighbors having bought lately, I concluded to try one, for they said they would not be without one if it cost \$5. Theirs was Bingham's smoker. As soon as I got a bunch of bees barreled—not hived, for I put them in 2 barrels, for there were 9 swarms in that pile—I set the smoker going, and soon Mrs. Sweet Home says: "How do you like your smoker?" I answer: "Ten times as well as I expected. I can work much faster, easier and pleasanter. Italian bees, double-entrance Langstroth hive, prize box sections, separators, glass, extractor, foundation and a Bingham smoker, makes beesness!" Send me 4 more. D. D. PALMER.

Wethersfield, Conn., July 12, 1878.

T. F. BINGHAM, Esq.—Dear Sir: A little over one year ago I bought of es "Square" Newman one of your small smokers. I have used it in transferring over 100 colonies of bees, and for months have had it in use daily in my bee yard, some days using it 8 to 12 hours. I have used other smokers, but much prefer yours. Still, I have made a great improvement on them: I should make it exactly like yours, or at least retain all its important features, and would paint them red, white and blue, and, notwithstanding the paint might be a disadvantage, I would call it an improvement, and would then like to see the man who would dare say I was not a public benefactor. Respectfully yours, F. I. SAGE.

In justice to A. J. King, I would say that since the issue of my patent, he has not made or sold Bingham smokers to my knowledge. T. F. BINGHAM.

Los Angeles, Cal., July 12, 1878.

Bingham smoker received, and been in use nearly every day since, I endorse all said in its favor. It effectually prevents the danger of fire in the apiary. Respectfully, WM. MUTH-RASMUSSEN.

Mohawk, N. Y., 20th December, 1877.

MR. T. F. BINGHAM—Dear Sir: Inasmuch as others who have so voluntarily considered the smoker matter, have so thoroughly ventilated the same without any marked interference from you or myself, I decide to come to you with the matter, and mention some points that are of marked interest to me. As you are well aware, the smoker cost our family much money and labor before it came to the public in anything like practical form. As is ever the case, the placing the first imperfect article upon the market, injured the sale of the better ones that followed. Father Quinby was urged more than you can know to patent the invention, but with his views of the matter, he could not be induced to do so. You are, of course, aware that if the connecting the upright tube to the hand-bellows had been patented by him, he would have had the control of the smoker. In the cut-off between the bellows and tube, you have given the smoker a marked improvement.

Through father Q.'s interest in the cause he loved, you have had the main features of the smoker handed to you. In the manufacture of smokers for another season, I desire to use the direct draft. In form I do not desire to copy your smoker. I am told you have applied for a patent. Is this the case? Whether so or not, I am controlled by a different motive than man-made law. I am not inclined to play "King" in the matter.

Please let me hear from you at once, giving me your views freely. Yours, resp'y, L. C. ROOT.

Honey Markets.

NEW YORK.

There is no change in the condition of the market during the past month, and prices are still quotable as follows:

Buckwheat Honey—comb.....	8 to 12c
Strained or extracted.....	8 to 10c
Clover—in comb.....	15 to 25c
extra.....	8 to 12c

H. K. & F. B. THURBER & Co.

CHICAGO.

HONEY.—The current quotations for good to choice comb, are ranging at 12 to 15c. #1b; common and dark colored lots at 8 to 10c, and choice extracted honey at 7 to 9c.

BEESWAX.—In fair request at 24 to 25c. per lb. for prime choice yellow.

CINCINNATI.

COMB HONEY.—In small boxes, 12@15c. Extracted, 1 b. jars, in shipping order, per doz., \$2.50; per gross, \$28.00. 2 b. jars, per doz., \$4.50; per gross, \$50.00.

C. F. MUTH.

CALIFORNIA.

HONEY.—With the loading of wheat ships for European ports, honey moves. Buyers for those ports pay @6@7c. for the best extracted, which seems at present to be their limit. Our market to-day we quote as follows: Comb, white, 11@13c; comb, dark to medium, 8@11c; extracted, 6@7c.

BEESWAX.—26@28c.

STEARNS & SMITH, 423 Front St., San Francisco, Cal.

New Quinby Smoker Column.

It is but just to call the attention of bee-keepers to the fact that those who compare the Quinby with the Bingham Smoker, refer to the last year's Smoker, and not the better one I am selling the present season. See advertisement in another column.

L. C. ROOT.

Canajoharie, N. Y., July 17, 1878.

After selling a large number of your smokers, we are gratified to know that they give general satisfaction. We keep all the prominent styles in stock, and whenever a visitor buys one, he always selects the New Quinby in preference to any other.

J. H. NELLIS.

Wenham, Mass., July 10, 1878.

I have thoroughly tested the smoker. It works like a charm. Everything about it is perfect. They are made in a thorough and workman-like manner. I consider it the best smoker in use. H. ALLEY.